

THE ARCHAEOLOGY AND GEOGRAPHY OF
ANCIENT TRANSCAUCASIAN SOCIETIES
VOLUME 1

THE FOUNDATIONS OF RESEARCH
AND REGIONAL SURVEY IN THE
TSAGHKAHOVIT PLAIN, ARMENIA



Tsaghkahovit Plain and North Slope of Mt. Aragats as Seen from the Foothills of the Pambak Range.
Photo by Adam T. Smith

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TSAGHKAHOVIT PLAIN, ARMENIA

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LIST OF ABBREVIATIONS

AB	Aragatsiberd
a.k.a.	also known as
a.s.l.	above sea level
Ap	Aparan survey quadrant
Ar	ArAGATS
AR	Isolated architecture
ArAGATS	Armenian-American Project for the Archaeology and Geography of Ancient Transcaucasian Societies
AS	Artifact scatter
ASTER	Advanced Spaceborne Thermal Emission and Reflection Radiometer
BC	Burial cluster
Bd	Berdidosh survey quadrant
C	Celsius
ca.	<i>circa</i> , approximately
cat.	catalog
cf.	<i>confer</i> , compare
C.I.A.	Central Intelligence Agency (U.S.)
cm	centimeter(s)
Cn	Canal
CRM	Cultural Resource Management
Cr	Corral
DEM	Digital Elevation Model
e.g.	<i>exempli gratia</i> , for example
et al.	<i>et alii</i> , and others
etc.	<i>et cetera</i> , and so forth
ETM	Enhanced Thematic Mapper
F	Fahrenheit
fig(s).	figure(s)
Ge	Gegharot suvey quadrant
GK	Gegharot Kurgans survey quadrant
GPS	Global Positioning System
ha	hectare(s)
Hn	Hnaberd survey quadrant
IAK	Imperial Archaeological Commission
IB	Isolated burial
ICBM	Intercontinental ballistic missile
ID	identification number(s)
ibid.	<i>ibidem</i> , in the same place
i.e.	<i>id est</i> , that is
INAA	Instrumental Neutron Activation Analysis
IPARC	International Program for Anthropological Research in the Caucasus
Jj	Jarjaris survey quadrant
KA	Kura-Araxes
Ko	Kolgat survey quadrant
Lp	Lernapar
m	meter(s)
Ma	Mantash survey quadrant

mg	milligram(s)
mL	milliliter(s)
mm	millimeter(s)
MSS	Multi-Spectral Scanner
N/A	not available
NASA	National Aeronautics and Space Administration (U.S.)
NATO	North Atlantic Treaty Organization
NB	<i>nota bene</i> , take careful note
n(n).	footnote(s)
no(s).	number(s)
OAK	Imperial Archaeological Commission's <i>Otchetke Arkheologicheskogo Komissii</i>
pers. comm.	personal communication
pl(s).	plate(s)
ppm	parts per million
REE	Rare Earth Elements
Rv	Reservoir
SAR	Synthetic Aperture Radar
SHMA	State Historical Museum of Armenia
Sk	Sahakaberd survey quadrant
Sl	Stela
SPOT	Satellite pour l'observation de la terre
SRTM	Shuttle Radar Topography Mission
S.S.R.	Soviet Socialist Republic(s)
St	Settlement
stn	stone
TM	Thematic Mapper
Ts	Tsaghkahovit survey quadrant
U.S.S.R.	Union of Soviet Socialist Republics
UTM	Universal Transverse Mercator
Vb	Vardablur survey quadrant
vol.	volume
XRF	fluorescence
ZSFSR	Transcaucasian Federated Soviet Socialist Republic

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CHAPTER 1

ARCHAEOLOGY IN ARMENIA: AN INTRODUCTION TO PROJECT ARAGATS

ADAM T. SMITH

Walking the streets of modern Yerevan, capital of the Republic of Armenia, one gets the sense of a deeply archaeological city. This is not a phenomenal effect of ubiquitous antiquities and monuments, such as those that shape the urban landscapes of Athens, Rome, or Cairo — places where one palpably senses the pleasure, and pain, of ruins. Yerevan's urban fabric, in contrast, is almost entirely a product of the twentieth century, sculpted by the design ambitions of the first (1918–1920), second (1920–1991), and now third (1991–present) republics. Although many major archaeological sites are located within Yerevan's city limits, including the Early Bronze Age village of Shengavit and the Urartian fortress of Erebuni, these are largely hidden from view, threatened by development rather than casting their powerful shadow over it. Instead, Yerevan is archaeological in a more semiotic sense; it is a place where everything from major urban monuments to cigarette packs cite the iconography of antiquity as readily as they employ the design vocabulary of Soviet modernism and post-Soviet capitalist realism. Over the course of the last century, this archaeological lexicon has been a tempting resource for numerous social, political, and aesthetic movements, from Soviet nationalities agendas, to post-Soviet nation-building, to neo-liberal market transformations.

During the Soviet era, images, sites, and motifs recuperated by archaeological research in Armenia were deployed in a wide array of contexts, from rural memorials dedicated to World War II to decorative facades of museums, government buildings, and hotels. Perhaps the most peculiar of the Soviet-era archaeological citations is the monument erected in 1970 to commemorate the fiftieth anniversary of Soviet Armenia (pl. 66a). Set into a steep rock outcrop that marks the confluence of the Ararat Plain and the folds of the Kotayk foothills, a cascading stairway descends from an elevated platform on which stands a 50 meter high stone obelisk. Surmounting the obelisk is a sculpture depicting a fortified tower with a stylized tree rising from the center of its crenellated battlements. Below the obelisk, inside an adjacent concrete bunker (visible just to the left of the obelisk in pl. 66a), an enormous trilobed stone stela rises underneath a relief-paneled skylight.

The obelisk's tower-and-tree insignia was borrowed from the iconography of the Kingdom of Urartu (ca. 850–625 B.C.). It was the Urartian king Argishti I who subdued the peoples of the Ararat Plain and erected the fortress of Erebuni (ca. 782 B.C.) to oversee the conquered region, a construction episode regularly, if not entirely convincingly, credited as the founding moment of Yerevan.¹ The adjacent trilobed stela is a replica (cast on a much augmented scale) of those erected by Artashes, king of Armenia during the second century B.C. (known as Artaxias in Greek sources such as Strabo). It was the Artaxiad dynasty that briefly assembled an empire which reached from the Mediterranean Sea to the Caspian Sea during the early first century B.C. But what can these emblems of two ancient “slave holding” (in the Leninist vocabulary) empires have meant as emblems of the Bolshevik revolution in Armenia? While largely unintelligible as monuments to Leninism, they are more clearly readable as instruments in Soviet nationalities policy. They position the U.S.S.R. as a faithful curator of distant national legacies and appropriate to the Soviet Empire any territorial aspirations sparked by recuperated national memory.

During the years since Armenia declared its independence in 1991, the regional archaeological lexicon has been steadily re-imagined as emblems less of state memorialization than of the commodities of consumerism, lending their names and iconographies to everything from cigarettes to candy. While archaeology was often used to forward nationalist agendas by politicians in all the emerging republics of the Caucasus following the collapse of the Soviet Union (Kohl and Tsatskheladze 1995), such deployments represented extensions of Soviet national agendas within a shifting geopolitical regime, not a completely re-imagined social deployment of the ancient world.

¹ The architectural remains at Erebuni underwent a large-scale restoration project during the late 1960s in order to commemorate the 2,750th anniversary of Yerevan.

Claims to territorial priority based upon archaeological findings were part of Imperial Russia's and the Soviet Union's approach to politics along its southern border at least since Nikolai Marr and Iosef Orbelli (1922) conducted excavations at Van in 1916 — the scholarly rear guard of Russian advances into eastern Anatolia during World War I. Soviet nationalities policies in the Caucasus consistently stoked national territorial aspirations — Armenian claims on eastern Turkey, Azeri claims on northwestern Iran — by appealing to archaeological and especially historical sources as a means to de-legitimize the Cold War borders that marked the frontiers of Western containment strategies (Shnirelman 2001). As a result, with the collapse of the Soviet Union, nationalist interests in Georgia, Armenia, and Azerbaijan did not need to map a new sense of the nation onto the shifting regional cartography. Imagined nations, framed by historically and archaeologically stimulated territorial desires, were already well in place. Post-Soviet nationalist archaeologies thus represented a continuation of Soviet-era articulations of nationality (*narod*) and nation (*strana*) — of people *in* place — not their repudiation.

It is only in the last few years that neo-liberal market economics have substantially revised the instrumental logics of the archaeological symbol in Armenia, transforming national emblems into brand icons. The ambitions of niche marketing are steadily recasting major Armenian archaeological sites (such as Garni and Ani) and historical figures (for example, the first-century B.C. empire builder Tigranes “the Great”) into markers of segmentary economic competition rather than unitary national heritage. The territorial desires of Soviet and post-Soviet nationalism in Armenia are being rededicated to the consumer desires that drive global capitalism. It is too soon to tell what impact this transformation of the archaeological imagination will have on the region's sense of its past. But for the moment, in both Yerevan and the countryside of Armenia, archaeological places and materials live in the contemporary world in direct and profound ways. And it is within this complex, shifting, vibrant context that archaeological research in Armenia now takes place. The investigations of the joint Armenian-American Project for the Archaeology and Geography of Ancient Transcaucasian Societies (Project ArAGATS) began in 1998 against the backdrop of epochal social and political changes in the region — transformations that have as thoroughly re-imagined the region's past as they have its present.

IMAGINING ANCIENT ARMENIA AND THE CAUCASUS

The Caucasus region (or Caucasia) occupies a distinctive place within both the ancient and modern geographic imagination. Most famously, the mountains of “Ararat” (a corruption of the Assyrian “Urartu” [Piotrovskii 1969: 13]) provided biblical authors with a region sufficiently distant, mountainous, and poorly known to serve as the legendary refuge of Noah's ark:

And God remembered Noah, and every living thing, and all the cattle that was with him in the ark; and God made a wind to pass over the earth, and the waters assuaged. The fountains also of the deep and the windows of heaven were stopped, and the rain from heaven was restrained ... and after the end of the hundred and fifty days the waters were abated. And the ark rested in the seventh month, on the seventeenth day of the month, upon the mountains of Ararat (Genesis 8:1–4).

Yet the biblical narrative was not the only early text to set the mountains of Caucasia and the Armenian Highland within a moral landscape of transgression and redemption.

The Greek tragedy *Prometheus Bound*, traditionally attributed to Aeschylus and dated to the mid-fifth century B.C.,² sets the story of human salvation (and the punishment of the savior) on the bare, wind-swept slopes of the Caucasus: “the remotest region of the earth ... a wilderness without a footprint” (Aeschylus *Prometheus Bound*, lines 1–2 [1961]). In order to save mortals from Zeus's genocidal wrath, Prometheus stole the secret of fire from Olympus. As punishment, Prometheus was shackled and nailed to the bare mountain slope, crucified, for saving humans from extinction. The peoples of Caucasia and the world mourn:

Now every country cries aloud in grief:
The peoples of Europe mourn
For you and the Titan race,
Your glorious, ancient rule and honor;
And all the settled tribes
That graze the fields of holy Asia
Weep loudly for you and share your suffering;

² But see Griffith 1977 regarding questions surrounding the play's authorship.

The Amazons of the land of Colchis,
 Virgins fearless in battle,
 The Scythian hordes who live at the world's end
 On the shores of Lake Maeotis;
 The warlike princes of Arabia,
 Whose battle-cry strikes terror
 In the ranks of sharpened spears, weep for you (Aeschylus *Prometheus Bound*, lines 406–20 [1961]).

Both the Noah and Prometheus stories situate the Caucasus within enduring narratives of disobedience, punishment, and redemption.

The mythic moral precariousness of Caucasia has long provided depth to the region's perceived geographic marginality, betwixt and between the continental and sociocultural worlds of Europe and Asia (cf. Euripides's *Medea*). In the early Greek tradition of continental geography, Caucasia's position is highly unstable as the boundary between Europe and Asia shifts between the Tanais, the Phasis, and the Araks rivers — a situation which Herodotus found extremely vexing:

Nor can I conjecture for what reason three different names [Libya, Europe, Asia] have been given to the earth, which is but one ... nor why the Egyptian river Nile and the Colchian Phasis have been assigned as boundaries to it (some say the Maeotian river Tanais and the Cimmerian Porthmeia); nor can I learn the names of those who made this division, nor from whence they derived the appellations (Herodotus *Histories*, IV.45 [1992]).

In the late first century B.C., the geographer Strabo formally defined the Tanais (Don) River as the frontier between Europe and Asia, establishing a geographic convention that led cartographers from Claudius Ptolemy (A.D. 90–168) to Hermann Moll (A.D. 1654–1732) to classify the Caucasian isthmus as part of Asia. But the mutually reinforcing tropes of continental and moral precariousness have proved singularly persistent as the region's dominant representational cliché.

The Caucasus have often been described as a land of remarkable diversity, boasting extraordinary variability in elevation, hydrology, climate, ecology, linguistic communities, ethnic affiliations, political structures, and social histories. As the idea of the nation-state — of ethnic homogeneity set within territorially delineated sovereign polities — reordered Europe's political landscape (and that of its colonies), Caucasia's heterogeneity became an object of considerable suspicion. European travelers during the eighteenth and nineteenth centuries read social, political, and cultural implications into the region's diversity. However, these readings were often weighted in starkly varying terms. One eighteenth-century traveler, besotted with the architecture and landscape around Etchmiadzin (the center of the Armenian Apostolic Church) suggested that the Ararat Plain was the site of the Garden of Eden (de Tournefort 1717: II, 325), reinscribing the traditional regional geography of transgression albeit in a transposed moral register. Yet a late nineteenth-century traveler, taken with the same sense of the region's liminality, read the region's heterogeneity in the far less flattering terms of realist geopolitics:

The summit of Little Ararat is the meeting point of the Russian, Persian, and Turkish empires, and everyone knows that borderlands have been from time immemorial the haunts of dangerous and turbulent characters (Bryce 1896: 204).

Such suspicious renderings of the Caucasus continue within Western writings to the present day where sociocultural heterogeneity and geographic liminality carry moral implications that are as portentous as they are trite. For example, in his recent post-Soviet travelogue, Robert Kaplan allows Europe and Asia to carry symbolic resonance, leaving the Caucasus in a deeply uncertain location:

While the cultures of Europe and Asia fuse along the shores of the Black Sea, the Caspian is all Asiatic, and between these two bodies of water is a land bridge where Europe gradually vanishes amid a six-hundred-mile chain of mountains as high as 18,000 feet. These are the Caucasus (Kaplan 2000: 226).

While the practical significance of Eurasia's fusion in the Caucasus is never articulated, Kaplan's continental uncertainty (unlike that of Herodotus) references a far broader metageography than the simple problem of demarcating boundaries. Here, continental affiliation synecdochically represents distinct cultural polarities — unified zones of value and belief whose margins constitute, in Samuel Huntington's (1996) contentious formulation, potential sites of apocalyptic conflict.

This "myth of continents" (Lewis and Wigen 1997) is remarkably popular in modern travelogues (e.g., Griffin 2004), and popular literature (e.g., the arch melodrama, *Ali and Nino*). But Caucasia's purported geographic, moral, and political liminality is a trap generated by "Great Power" geopolitics that does more to reproduce current problems attendant to ongoing contests for regional influence than it does to accurately represent the histori-

cally shifting relations among the denizens of the Caucasus and their neighbors. The difficulty archaeologists and historians face in examining the ancient worlds of the Caucasus is reading against the grain of this tendency to render contemporary sociopolitical orders as inherent *in place* rather than generated within complex histories of *place* (the same failings of geographical imagination plague southeastern Europe, Israel and Palestine, and many parts of Africa). Mythological traditions have strongly conditioned the tropic conventions used to contextualize Caucasia's recent tragic conflicts. While the region's eschatological geographies provide a simplistic backstory to contemporary conflicts as viewed from afar, taken literally or metaphorically they tell us little about the region's complex (pre)history, about cultural practices, or about the processes of social formation and transformation that have shaped the region.

Unfortunately, at present the Caucasus (and indeed Eurasia as a whole) is only faintly inscribed in the archaeological traditions of Europe and the United States. The tensions of the Cold War certainly contributed to the marginalization of the region within the archaeology of the ancient Near East as it developed in the years after World War II. For example, despite the titular centrality of the region to the emergence and spread of the Early Bronze Age Kura-Araxes archaeological horizon (a.k.a. Early Transcaucasian Culture [Burney and Lang 1972]), the most spatially extensive material culture horizon in southwest Asia during the third millennium B.C., the South Caucasus is entirely absent from almost all major Western synthetic discussions of the ancient Near East (e.g., Kuhrt 1995; Maisels 1993; Nissen 1988; cf. Sasson et al. 1995). Similarly, Western overviews of European prehistory rarely embrace the Caucasus (e.g., Kristiansen 1998; *pace* Bogucki and Crabtree 2004). When the region is mentioned in prehistories of Europe or the Near East, it is typically as a source of raw materials and resources (such as obsidian), a periphery to the real work of social and economic development occurring to the south (cf. Kohl 1993).

Investigations by local scholars within the Caucasus have often fallen into the trap of peripheralization as well. The appearance of small collections of Halaf ceramics in Neolithic sites from Armenia to Daghestan and the possible coincidence of the rise of Maikop traditions with the Uruk expansion have often been taken as foreshadowing the ancient Near East's significant, if soft-spoken, diffusionary impact (an argument also made by Sherratt [1997]). The effect of this diffusionism is to unjustifiably privilege distant "high" traditions and disarticulate the South Caucasus from its own historical dynamism. That is, the societies of the region appear to remain largely static until help arrives from the "civilizations" of the south that spark innovation and new heights of aesthetic accomplishment (an intellectual revitalization of *fin de siècle* archaeological theory as anachronistic in Soviet and post-Soviet thought as it is in Anglophonic approaches).

Resistance to the traditional depiction of the Caucasus as the precarious margin of Europe and Asia, of Orient and Occident, of the civilizations of the ancient Near East, the Russian steppe, and the Mediterranean world, is not to argue that the region existed in a vacuum. However, overemphasizing its neighbors has a pernicious effect that can forestall much needed attention to local practices and histories. The South Caucasus was undeniably a part of both the ancient Near East and Eurasia, but its (pre)history is not reducible to the margins of better-known traditions in Mesopotamia, Anatolia, Persia, Greece, Rome, or the Russian steppe. What was the South Caucasus then, in its own terms? What were the local traditions that were nurtured here? How did they grow and transform and how can we conceptualize their lasting impact on continental (pre)history and anthropological archaeology? The investigations of Project ArAGATS were undertaken in order to provide initial answers to these questions and to help re-shape archaeological practice and theory in the region.

GEOGRAPHIC INTRODUCTION TO THE REGION

The Great Caucasus range traverses over 1,100 km along the northern end of the isthmus that divides the southern Eurasian steppes from the highlands of southwestern Eurasia (pl. 1). Within traditional Russian and Soviet geography, the area between the Terek River and the Great Caucasus was referred to as Ciscaucasia while the territories south of the Caucasus were defined as Transcaucasia.³ Recently, there has been a concerted effort to purge geographic terminology of its Russocentric perspective which, despite its admirable motives, has created considerable uncertainty in regional chorography and toponymy. Ciscaucasia is now most often referred to

³ As the reader will note, the term "Transcaucasia" has been retained in both the project name (ArAGATS) and, by extension, the title of this book. We have not sought to purge this terminological inconsistency from our vocabulary for two reasons. First, the project was founded

prior to the broad reformulation in geographic terms discussed here and thus changing our terms would introduce confusion. Second, we wanted to retain the orographic reference linking our project to the adjacent mountain of the same name.

as the North Caucasus, a region that incorporates the southernmost provinces of the Russian Federation including Ingushetia, Chechnya, and Daghestan up to the Great Caucasus ridge. The South Caucasus, or Caucasia (formerly Transcaucasia), today includes the three independent republics of Georgia, Azerbaijan, and Armenia, along with disputed regions in Abkhazia, South Ossetia, and Nagorno-Karabakh. Although today defined by modern political boundaries established by the Treaty of Lausanne (1923) — borders etched more deeply by the Cold War — the South Caucasus in topographic terms flows uninterrupted into the Armenian Highland, the highest of the uplands (along with the Anatolian Plateau to the west and the Iranian Plateau to the east) that make up the northern sectors of southwest Asia (or the Near East).⁴

The remarkable orographic and climatic variability of the South Caucasus present a strong argument for more refined attention to distinct geographic provinces. Unfortunately, it is quite difficult to discover a nomenclature that meaningfully represents such zones without lapsing into either a burdensome detail that proves tiresome upon repetition (e.g., middle highland Kura River drainage) or lists of cardinal points that threaten to box any reader's compass (e.g., northern South Caucasus). Therefore, while we use the primary terms of North and South Caucasus to refer to the macro-regions on either side of the Great Caucasus ridge, we adopt the term Caucasia when dealing more directly with distinct meso-scale provinces.

PROVINCES

The geographic provinces of the South Caucasus are most readily defined in reference to elevation and to the Kura and Araks river drainages (fig. 1). The highlands of northern Caucasia are defined by the Middle Kura River and its associated drainages, including the Pambak/Debed system and the Agstef (Akstafa) River. Northern Caucasia is characterized climatically by hot dry summers and mild dry winters while the vegetation consists primarily of temperate grasslands. Western Caucasia consists of the Colchian Plain, drained by the westward-flowing Rioni and Inguri rivers. The climate tends toward mild summers and damp winters supporting mixed deciduous and coniferous forests. Annual rainfall averages approximately 2,500 mm, making it the wettest province of the South Caucasus. Eastern Caucasia (the steppes of Azerbaijan, crossed by the lower Araks and Kura rivers) is a similarly low-lying area characterized by broad open steppe terrain with riverine vegetation. Summers tend to be mild and winters humid, though little rain falls throughout the year (in general, less than 200 mm) in this, the driest of Caucasia's provinces (Cole and German 1961; Dewdney 1979; Plashchev and Chekmarev 1978).

Southern Caucasia (pl. 2) includes the highland Middle Araks River and its drainages. Average elevation is between 1,200 and 1,800 m above sea level, dipping below 1,000 m only in the Ararat Plain and the Debed River valley. Summers are hot, dry, and short while winters tend to be long and harsh, with moderate accumulations of snow (Hewson 1997, 2001). The vegetation tends to steppe/prairie but varies significantly with elevation from

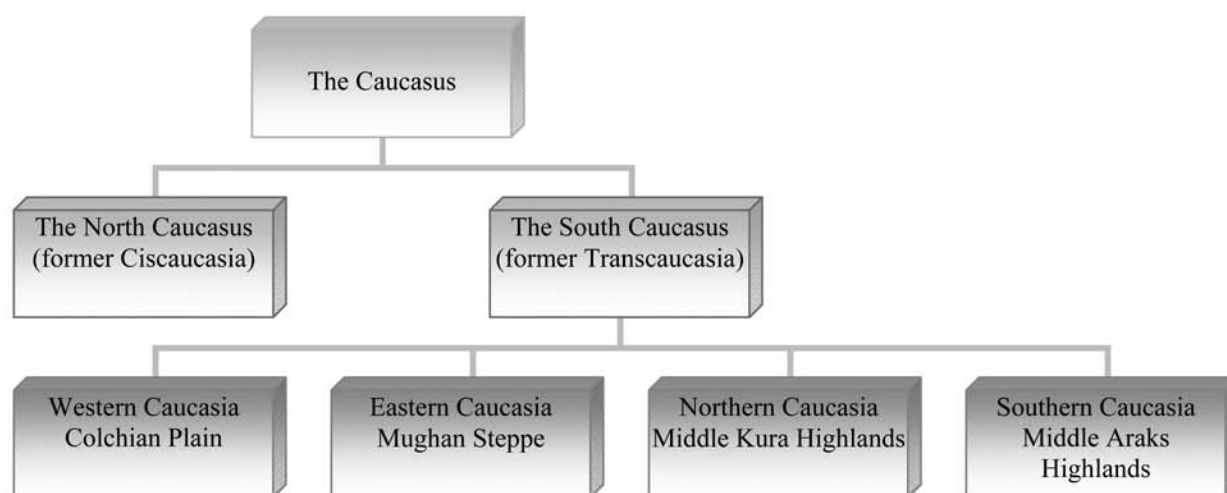


Figure 1. Primary Geographic Provinces of the Caucasus

⁴ Because there is no clearly defined geographic boundary between South Caucasia and the Armenian Highland, the precise referent of each term can often prove elusive. We follow the Soviet geographic tradition and use the term "South Caucasus" to refer only to the

territory between the Araks River and Great Caucasus Ridge. The term "Armenian Highland" describes a much broader geographic province that extends west to the Antitaurus Mountains.

the salt marshes of the Ararat Plain to the deciduous forests of Syunik, to the alpine regimes of the upper mountain slopes. Cultivation is difficult in the region without irrigation as rainfall is generally light (between 150 and 300 mm annual precipitation in the Ararat Plain) and concentrated in the spring (Tardzhumanian 1984). Irrigation historically has concentrated as much on the capture and storage of snow-melt as the exploitation of river systems, since the latter tend to rest at the bottoms of deep gorges.

OROGRAPHY AND HYDROLOGY

Throughout the Armenian Highland and the South Caucasus, mountain chains crash into one another creating a chaotic sea of stone and soil. In the northwest is the Pontic range, which extends 1,100 km along the southeastern shore of the Black Sea and reaches a maximum elevation of 3,937 m a.s.l. at Mount Koçkar. At the Çoruh River, this chain turns to the east to form the interdigitated ranges of the Lesser Caucasus, including the Adzharia, Trialeti, Dzhavakheti, Bazum, Shirak, Pambak, Tsaghkunyats, and Karabagh Mountains. The highest point in the Lesser Caucasus is Mount Shakhdag (4,250 m a.s.l.), northeast of Lake Sevan. Along the southern boundary of the Armenian Highland is the Taurus Mountain chain with its extensive system of subsidiary ranges including the Nur, Malatya, Musgune, Kayussahap, Van Dogbür, and Hakkari (or Kurdish) Mountains. The Taurus Mountains extend approximately 1,500 km east to west across the entire southern border of the Armenian Highland. The highland's western frontier is marked by the Antitaurus ranges, including the Ahtali and Tecer Mountains that mark the continental divide between the westerly flowing rivers of Anatolia (such as the Kelkit [Gayl] and Kizil Irmak [Halys]) and the (south)easterly flowing rivers of Mesopotamia and the South Caucasus (such as the Euphrates, Tigris, Kura, and Araks). At the center of the Armenian Highland, a series of interwoven ranges such as the Bingöl Dağları (Byurakan Mountains) and Ala Dağları (Armenian Mountains) extend roughly east to west, turning to the south between Lakes Van and Urmia to merge into the Zagros range of western Iran (Dumitrashko 1979; Hewson 2001).

Two peaks of particular note lie near the junction of the Armenian mountains and the far northern Zagros: Mount Ararat (5,165 m a.s.l.) and Mount Aragats (4,090 m a.s.l.). The summit of Mount Ararat is the highest point in southwest Asia and provides a geographic twin to Mount Elbrus in the Great Caucasus, the tallest peak in Europe. The slopes of Ararat and Aragats bracket the Ararat Plain, the largest area of fertile arable land within southern Caucasia and a critical pivot for the region's chorography. Several other sizable intermontane plains also dot the region, including the Muğ Plain and the Van Plain, to the west and east of Lake Van respectively, the Kars and Shirak Plains along the Akhourian River drainage, the Lori and Iberian Plains in the Lesser Caucasus, the Colchian Plain along the eastern Black Sea coast, and the Mil Plain, Mughan Steppe, and Shirvan Steppe of the lower Kura and Araks River drainages.

The Armenian Highland hosts three major lakes. The highest (1,903 m a.s.l.), smallest (1,435 square km), and deepest (average depth of 26 m) of these is Lake Sevan in eastern Armenia. Lake Sevan is fed by a number of mountain streams and has a single outlet at its northern end through the Hrazdan River which flows into the Araks. The construction of several hydroelectric stations along the Hrazdan in the mid-twentieth century led to a severe drop (approximately 15 m) in the level of Lake Sevan and the subsequent construction of large tunnels from the Arpa River intended to recharge the lake's waters. Lake Van in eastern Turkey, dubbed the "Upper Sea of Nairi" in Assyrian sources (Luckenbill 1989: 68, 82), sits at an elevation of 1,662 m a.s.l. and has an average depth of 25 m. Lake Van is fed by mountain streams but has no outlet so its level is stabilized only by evaporation. As a result, the water is brackish and undrinkable. Northwestern Iran's Lake Urmia is the largest of the three lakes (3,190 km²) as well as the shallowest, reaching a maximum depth of only 13.5 m. Resting at an elevation of 1,275 m a.s.l., Urmia also has no outlet and its waters are highly alkaline. Of the three major lakes of the Armenian Highland, only the waters of Lake Sevan are potable.

The Caucasus continue to be shaped by the tectonic action of the Arabian and Eurasian plates, a collision which has thrown up the Great and Lesser Caucasus, folding the underlying bedrock and erecting high volcanic peaks. The region has been an active seismic area throughout its history and remains so today. Most recently, serious earthquakes shook the region in 1998 in northeastern Armenia and, more destructively, in December of 1988, near Spitak in the Pambak River valley. The latter event devastated the city of Leninakan (Gyumri) and killed approximately 25,000 people. The volcanic activity which raised peaks such as Mount Ararat and Mount Aragats covered the region with a sea of lava, leaving behind vast deposits of basalt, tuff, and obsidian and fertile soils. The largest rivers in Caucasia are the Kura and the Araks, neither of which are navigable for their entire course. Both are fed

by mountain streams of varying sizes, including the Akhourian, Kasakh, Hrazdan, and Arpa which flow into the Araks, and the Algeti, Khrami, Debed, and Agstef which flow into the Kura.

SOUTHERN CAUCASIA

The territory of southern Caucasasia, the primary focus of the work reported in this book, falls today largely, though not entirely, within the borders of the Republic of Armenia. The Republic of Armenia occupies approximately 29,800 km² of largely mountainous highlands (an area roughly the size of Belgium), divided into eleven administrative districts (*marz*).⁵ Of this territory, only 48 percent (1.42 million hectares) is traditionally classified as workable agricultural land while 33 percent is described as unused due to soil or topographic conditions (although much of this “unused” territory supports large flocks of sheep, goats, and cattle) (Tardzhumanian 1984: V). The mountains of Armenia are conspicuously rich in mineral deposits and metallurgical resources (pl. 3), including significant deposits of gold, iron, lead, and copper, which appear to have been exploited beginning in the late fourth millennium B.C. A wide variety of building stone is also quarried in the region, including basalt, marble, and tuff.

Armenia’s elevation ranges from 380 m a.s.l. in the low-lying Debed River basin to 4,095 m a.s.l. at the summit of Mount Aragats, with a median elevation of 1,800 m. Fifty-nine percent of the country lies at an elevation between 1,500 and 2,500 m a.s.l. (Tardzhumanian 1984). A cross section from north to south reveals the alternation of jagged summits and intermontane elevated plains and valleys that define regional physical geography. While southern and northeastern Armenia still boast large forests, the majority of the country is rather barren, a vista made even more stark by the boulders and bedrock outcrops that so characterize the region’s mountain slopes. Looking more closely, however, the initial impression of a rocky moonscape is slowly controverted as detailed inspection reveals one cluster of boulders to mark a cemetery, another, a fortress, yet another, the ruins of a village. Yet no systematic examination of a regional archaeological landscape in Armenia had been conducted prior to 1998. It was this lacuna that Project ArAGATS was designed to address.

ORIENTATION TO THE FIELDWORK

During the summers of 1998 and 2000, Project ArAGATS conducted regional archaeological investigations in the Tsaghkahovit Plain of central Armenia, the initial phase of an ongoing research program focused on the roots of sociopolitical complexity in southern Caucasasia (see preliminary reports in Avetisyan, Badalyan, and Smith 2000; Badalyan, Smith, and Avetisyan 2003; Badalyan, Avetisyan, and Smith 2004; Smith, Badalyan, and Avetisyan 1999; Smith et al. 2004). Regional work (including mapping, examination of remotely sensed data, and small systematic surveys intended to fill in gaps in coverage) continued on a more limited scale between 2002 and 2006 as the project shifted its operations to focus on intensive excavations at the sites of Tsaghkahovit and Gegharot (Badalyan, Smith, and Avetisyan 2003; Badalyan, Avetisyan, and Smith 2004; Hayrapetyan 2002, 2005; Lindsay 2006; Monahan 2004, forthcoming; Smith et al. 2004).

Our regional investigations had four primary goals. The first was to examine the transformation of a local landscape over the full scope of prehistoric and historic eras in order to describe the complex archaeological picture that emerged from such an intimate portrait. We were particularly interested to define transformations in settlement and landscape linked to the emergence of complex societies in the region during the Late Bronze Age and Iron I period of the late second and early first millennia B.C. Examinations of the rise of early complex societies in the Armenian Highland had long focused on the emergence of the Urartian empire (ca. 850–625 B.C.) as the pivotal moment of initial state formation. However, there was considerable knowledge within Soviet archaeology of numerous pre-Urartian fortified citadels in the South Caucasus. These sites raised the question of Urartu’s antecedents, opening the possibility that the Urartian kingdom represented just one phase in an extended process of sociopolitical formation.

⁵ During the Soviet period, Armenia was divided among thirty-three administrative regions. Redistricting occurred as part of a larger reorganization of regional administration in 1995.

Our second goal was to establish the basic outlines of the regional archaeological chronology in reference to the traditional periodization of the South Caucasus's history and prehistory. This was vital in order to lend temporal depth to the two-dimensional picture provided by examination of surface remains. However, we also found that our results created significant problems for the traditional outline of the region's prehistory that could not be explained in reference to regional variation. As a result, our subsequent investigations became far more deeply embroiled in a broad re-examination of third- to first-millennia B.C. chronologies than we had anticipated at the outset. Furthermore, our initial investigations into the post-Urartian settlements of the Tsaghkahovit Plain revealed significant gaps in the archaeology of the mid-first millennium B.C. In part these gaps had arisen due to problems in several of the period's key sites and collections (particularly Erebuni and Armavir) which had forestalled the development of detailed material typologies and chronologies. Limitations in the archaeology of first-millennium B.C. Caucasia also emerged from the traditional archaeological focus on large urban centers at the expense of towns and villages.⁶ Thus our work on the Tsaghkahovit Plain also came to be driven by a need to examine well-preserved Iron III period assemblages beyond the narrow confines of urban centers on the Ararat Plain (Khatchadourian 2008b).

Our third goal was to expand the repertoire of methods and analytical techniques deployed in Caucasia through the use of systematic archaeological survey, site-based collections and mapping, analysis of local artifacts in reference to regional raw material sources, and interpretation of remotely sensed data. Project ArAGATS was the first project in the Caucasus to employ the techniques of systematic regional pedestrian survey. As the results described here indicate, such detailed studies have remarkable potential to truly transform our understanding of the sociocultural and political forces that shaped the region's past and present.

Our final goal for Project ArAGATS was to push the theoretical foundations of archaeology in the Caucasus beyond the formulation of culture areas to consider the sociological forces that produced variability in material culture production, exchange, and consumption. This meant that we needed a strong empirical basis for elaborating both the region's shifting sociopolitical institutions and the cultural practices that embedded them in place and time.

Project ArAGATS's regional research was centered on a systematic pedestrian survey of 98.31 square km of the highlands surrounding the Tsaghkahovit Plain and portions of the plain itself. Test excavations at five fortresses and four cemeteries complemented the results of the survey, providing depth to the sequences detected on the surface. These investigations were further augmented by targeted examinations of the plain proper, utilizing satellite imagery (Corona, SPOT, Landsat 7 ETM) and two series of aerial photographs (1948 and 1989) complemented by field inspections and subsurface probes (test pits and augur probes). Taken together, this research program has provided a detailed account of the broad social, political, economic, and cultural changes that shaped this region of southern Caucasia from the Bronze Age through the present day. The investigations of Project ArAGATS in the Tsaghkahovit Plain have continued with intensive excavations at the fortresses of Tsaghkahovit and Gegharot. Although we refer to some of the findings of this subsequent research here — such as radiocarbon dates used to anchor current periodizations — these investigations are still ongoing and will be reported in full in a subsequent volume.

The investigations of Project ArAGATS are an entirely collaborative enterprise, from the conceptualization of research design, to the conduct of fieldwork, to this report. Our research agenda has been shaped by two overarching priorities. First, we place a high value upon the intensive, long-term exploration of a single area as a counter to the gravity that diffusionism can exert when interpretation must be staked on correlations to better-known regions. We are also optimistic that such concentration can reveal the hiatuses, catastrophes, abandonments, and crises that make for a historical, as opposed to evolutionary, archaeology. Second, we are committed to a form of research practice that valued the intellectual priorities and scholarly traditions of both American and Armenian academies. If a post-colonial archaeology is to emerge as a substantive approach to research practice, as opposed to political platitude, then the discipline must take seriously the challenge of linking local knowledge with global concerns.

The present volume is the first in a planned series of reports on the archaeological research of Project ArAGATS. As such it is not only an opportunity to present results, but also a chance to introduce a Western audience to the contemporary anthropological and historical questions that orient archaeology in Caucasia generally and Armenia in particular. These questions overlap considerably with sets of intellectual concerns current in the archaeology of the ancient Near East to the south and the Eurasian steppe to the north. However, archaeology in Caucasia has also shaped its own set of problems and priorities in response to its unique data sets and fascinating intellectual history. It is to this history of research that we now turn.

⁶ Unfortunately, important exceptions to the traditional focus on capital cities, such as Karapetyan's work at Karchakhyur and Ter

Martirossov's investigations at Benjamin and Shirakavan, remain largely unpublished (see Karapetyan 2000, 2003; Tiratsyan 1988).

CHAPTER 2

TRADITIONS OF ARCHAEOLOGICAL RESEARCH IN ARMENIA

ADAM T. SMITH⁷

In the second half of the first millennium A.D., the historian Moses Khorenats'i lent his royal genealogy of the Bagratid dynasty a sense of place by weaving myth and history into the major ruins that dot the landscape of the Armenian Highland.⁸ In relating the death of the mythic Armenian ruler Ara the Beautiful, Khorenats'i describes the conquest of the Plain of Van by Queen Semiramis of Assyria, who erected a stone-walled fortress at Van Kale to rule the land, a great canal to irrigate it, and inscribed stone markers to delineate its boundaries.

Passing through many places, [Semiramis] arrived from the east at the edge of the salt lake [Lake Van] [She] ordered forty-two thousand workers from Assyria and other lands of the empire ... to be brought without delay to the desired spot First she ordered the aqueduct for the river to be built in hard and massive stone, cemented with mortar and sand, of infinite length and height; ... within a few years she completed the marvelous [city] with strong walls and bronze gates And not only this, but also in many places in the land of Armenia she set up stelae and ordered memorials to herself to be written on them And in many places she fixed the boundaries [of the kingdom] with the same writing (Khorenats'i 1978: I.16).

Epigraphic research in the nineteenth century demonstrated that the ruins of Van Kale and numerous other fortresses were built by the kings of Urartu, not by Semiramis. Yet Khorenats'i's effort to understand the monuments that surrounded him in relation to a sweeping historical narrative marks an early speculative era in the formation of an archaeological description of the Armenian Highland.

Such scholastic meditations on the ruins of the region thrived throughout the medieval and early modern eras, with Khorenats'i's work setting the basic narrative agenda, augmented by additional textual materials from Greek and Roman sources. Anania of Shirak's seventh-century *Ashkharhats' oyts* (*Geography*) provides a detailed account of the region strongly influenced by the geographical writings of Strabo, Pliny, and Ptolemy (Shirakts'i 1994). Arabic and Persian texts from the ninth and tenth centuries A.D. also included descriptions of the Armenian Highland within broader surveys of the Islamic world. But none of the medieval authors significantly departed from the scholastic understanding of major ruins popularized by Khorenats'i.

A significant intellectual transformation in the interpretation of ancient monuments followed from the arrival of European travelers and Russian forces in the Caucasus during the seventeenth and eighteenth centuries. Writing from a substantive aesthetic viewpoint similar to the historicism advanced by Herder (1966), European travelers interpreted sites such as the medieval city of Ani as direct expressions of Armenian national character. Ruins, monuments, and landscapes thus provided resonant media for broad cultural evaluations. Compare the following accounts of the area around Etchmiadzin, both published in the early eighteenth century by European travelers.

Everything there is ruined, deserted, or uncivilized. Every one there breathes only of tyranny and slavery in the civil state, and self-interest, superstition and ignorance in religion (Lucas 1714: 246).

Our learned men may judge as they please; but as I have never seen a more beautiful Country than the neighborhood of Three-Churches [Etchmiadzin], I am strongly persuaded that Adam and Eve were created there (de Tournefort and Bartlett 1718: 325).

Not until the nineteenth century were the idiosyncratic observations of travelers and scholastics succeeded by more systematic efforts to understand the material remains strewn across the Armenian Highland. However, the historicism of eighteenth-century scholars remained the dominant conceptual apparatus in Russian archaeology well into the Soviet period, bundling artifact, place, and nationality into a unique theory of ethnic formation.

⁷ An earlier version of this chapter appeared previously in the *Journal of World Prehistory* (Smith 2006).

⁸ See Thomson 1978 for a discussion of the controversy that surrounds the dating of Khorenats'i's text.

ARCHAEOLOGY AND EMPIRE, 1704–1892

Early Russian archaeology flourished under the sponsorship of Peter the Great, who founded the *Kunstkamera* in St. Petersburg in 1704 as a home for a burgeoning collection of antiquities brought to the Tsar's court as mementos of the expanding *imperium*. The Tsar formalized Russian collecting in 1718 when he decreed that district governors and military commanders should collect and remit artifacts and curiosities to St. Petersburg. The eighteenth century witnessed several major excavations of large *kurgans* (the Russian term for a barrow or tomb formed by an earthen and/or stone tumulus heaped atop one or more burial chambers) across the Russian steppe, from the bronze-filled kurgans near Krasnoiarsk (1739) in Siberia to the “royal” Scythian tomb at Mel’gunovskiy (1763) near the headwaters of the Ingulets River (Black 1986; Miller 1956).

After 1774, when Russia gained access to the Black Sea coast, military topographers from the General Staff began to plot the locations of ruins, ascribing tentative names culled from classical sources. G. A. Potemkin ordered the governor of Tauric province (Crimea) to organize searches for ancient coins (Tunkina 2003: 305). Yet although archaeological explorations of classical sites in Crimea generated an immense wealth of artifacts and stimulated the founding of an archaeological museum in Kerch (1826), they produced an archaeological imagination more aroused by the distant legacy of Greece than by an interest in regional history.

Russian philhellenism, strongly influenced by the German philological humanism of Winckelmann (Marchand 1996), left an indelible mark on the Black Sea coast visible in the hellenized Turkish and Tatar toponyms of the area (e.g., Cherson, Olbiopol, Sevastopol, Simferopol, Phanagoria, Odessa, etc.). However, while the Grecophilia of German intellectuals centered upon a recuperation of distinctly German culture and institutions against the hegemony of Augustan neoclassicism, early Russian archaeology on the Black Sea was patronized by a Western-oriented aristocracy whose “class interests overtly continued to outweigh a sense of ethnic identity” (Trigger 1989: 209). “The Greeks” were cast as a foreign civilizing agent struggling to gain mastery over the local barbarians — a description that fit the eighteenth-century Russian aristocracy’s alienation from Russian society at large better than it did the ancient Greek colonists (few nobles spoke Russian since French was the primary language of the court [Hosking 2001]).

Following Napoleon’s ruinous campaign against Russia in 1812, the aristocracy — many of whom served as officers in the military — began to turn its back on Europe, forsaking Peter I’s legacy. The devastation brought by the French armies to the Russian countryside engendered a suspicion of traditional Petrine francophilia and a surge of interest in the Russian language, folk songs, stories, dances, and dress. As Orlando Figes (2002: 72) argues, the battlefield sacrifices of the peasant soldiers generated a new class of liberal noblemen: officers and aristocrats “who lost their pride in class but found their countrymen in the ranks of 1812.” It is not surprising then that the Imperial Archaeology Commission was established in 1851 to systematize a burgeoning field of excavations whose primary objects were not the remains of Greek colonies, but rather an increasingly varied array of antiquities that stretched from Paleolithic and Neolithic sites such as Kostenki and Tripolye (respectively) to the medieval remains of early Slavs. One legacy of the broad cultural transformations engendered by the crises of 1812 was thus the emergence of an archaeology *of* Russia and its antecedents rather than the collection of antiquities *in* Russia, which had dominated the previous century of work.

INTO THE CAUCASUS

Russian archaeology in the Caucasus during the nineteenth century developed in tandem with political, economic, and military expansion (like its European counterparts in Britain, France, and Germany) and was practiced, initially, by aristocratic elites and the bureaucratic foot soldiers of empire (compare, for example, pioneering Near Eastern archaeologists like Major Henry Rawlinson, an agent in the British Colonial Administration, and Paul-Émile Botta, a doctor in the French military). Russia established its first beachhead in the South Caucasus thanks to what has become a critical triangulation for the small polities of the region. During the 1770s and 1780s, the borders of Ottoman and Persian territories in the South Caucasus were a matter of dispute. Seeking a means to secure independence, Irakli II, king of Georgia, signed the Treaty of Georgievsk in 1783, recognizing the sovereignty of the Russian Tsars in return for their commitment to secure the territorial integrity of Georgia against Persian and Ottoman claims (Cornell 2001: 34).

Throughout the 1780s, Russia was a rather distant presence in the South Caucasus, lacking a secure route through the Great Caucasus. Russian armies effectively breached the Great Caucasus in 1791 when Sheikh Man-

sur, a Chechen Naqshbandi leader, was captured, ending the resistance of the Sufi brotherhoods and opening a road to Georgia and places farther south (Güne-Yadcy 2003). The Russian Empire moved rather quickly in the South Caucasus, pushing south into Armenia and the Azerbaijani khanates as far as the Araks River. The Treaty of Turkmenchai (1828) cemented these territorial gains setting the Araks as the border between Russia and Persia. However, Russia was far slower in consolidating its victories in the North Caucasus and faced a new uprising in the 1820s, led by the charismatic Avar, Shamil (Gammer 1994). Shamil's resistance movement in the northeastern Caucasus endured for thirty years and, in the northwest, Russian ambitions were plagued by equally fierce resistance from Circassian communities (Henze 1992). Not until 1864 did Russia manage to assert effective authority over the North Caucasus.

Archaeology in the Russian Empire after the final consolidation of its new territories in the Caucasus and the northern Black Sea coast does not fit the traditional terms of the discipline's intellectual history in the West. In one sense, Russian archaeology was certainly imperialist in that it served to appropriate local prehistories to the glory of the empire through museums that followed the model of the *Kunstkamera* (cf. Lubbock 1865; Squier and Davis 1848). However, unlike in America and Britain, archaeological evidence was generally not used as a justification for claims to racial or national superiority (Trigger 1989: 210). The peoples of the conquered territories were not compressed into reductive social types and their prehistories were not squeezed into a singular evolutionary sequence that rendered the empire as the triumphal culmination of historical process. Nor were nations ordered into a synchronic Aristotelian Great Chain of Being that might naturalize claims of Russian privilege over subordinated nationalities (Lovejoy 1936).

Alternatively, Russian archaeology during the late nineteenth century might be described as antiquarian, insofar as excavations primarily constituted a method of collecting a diverse array of objects rather than a method for documenting variation within or between assemblages described in context (Lindsay and Smith 2006). Yet antiquarianism is also an insufficient term to describe the intellectual foundations of late nineteenth-century archaeology in the Russian Empire. Only in the "classical" sites of the Black Sea coast did a historical record provide the defining reference point for artifact interpretation.

Furthermore, Russian archaeology does not fit well within the model of nationalist archaeology that emerged during the late nineteenth and early twentieth centuries, most notably in Germany. Indeed, ethnography and archaeology in the late nineteenth century played a pivotal role in pushing aside both the orientalizing literary romanticism and slavophilia that had threatened to position ethnic difference as the only salient source of cultural variation in Russian scholarship. The 1880s witnessed a number of key studies that emphasized the integration of Russian and "Asiatic" cultures rather than their essential distinction. D. N. Anuchin and N. I. Veselovsky argued that Paleolithic culture in Russia had been forged by deep "Tatar" influences (Veselovskii 1900; cf. Munchaev 1975). Similarly, the anthropologist Dmitry Zelenin (1991) argued that elements of Russian folk traditions — such as fever charms and protections against the evil eye — derived from analogous practices in Siberia and Mongolia. In the influential volume *Russkiya Drevnosti v Pamiatnikakh Iskusstva*, Ivan Tolstoi and Nikidim Kondakov (1889) defined the relation between the Russian nation and its antiquities in terms that precluded the simplistic formulations offered by nationalist culture-historians in Europe, such as Gustav Kossina:

In the course of two and a half thousand years many tribes and nationalities had been living and working for the creation of historical memory within the borders of our fatherland. And the more varied has been the ethnic composition (*plemnoi sostav*) of the population, and the longer it has taken to create one state with a single nation (*edinyi narod*), the greater has been the contribution of [these nationalities] to the treasury of Russian antiquities (Tolstoi and Kondakov 1889: iii; translation from Tolz 2005: 134).

Russian archaeology — particularly among the academic orientalists — forwarded a distinctly pluralist model of national formation that saw strong local traditions as contributors to the formation of Russian *grazhdanstvennost'* or civilization, rather than as roadblocks to the formation of a Russian national program. Nikolai Marr situated this perspective explicitly in relation to the nationalities of the South Caucasus, arguing that "the [Russian] state has all the more reason to regard Armenian and Georgian studies as an educational tool Who can deny the fact ... that one who is indifferent to the plight of one's own region cannot deeply embrace a more abstract and complex feeling for the fatherland" (Marr 1933: 20; Tolz 2005: 140).

It is important to note that although early Russian archaeological thought largely resisted slavophilia and the narratives of genealogical purity that so compromised nationalist archaeology in Europe, it was no less captivated by the mosaic geography of cultural history. This archaeological vision found its most coherent expression in the formalist and empirical schools of Vasily Gorodtsov and Aleksandr Spitsyn. Both Gorodtsov and Spitsyn were

more preoccupied with locating distinct archaeological cultures cartographically in space than in evolutionary time. Although Gorodtsov (1927) was concerned to define historical sequences of artifactual change, he was reticent to link such transformations to ethnic or cultural transformations. For example, his division of the Bronze Age on the Eurasian steppe predicated each epoch upon shifts in grave type — from pit (*yamnaya*), to catacomb (*katakombnaya*), to timber (*sрубnaya*) grave cultures — yet provided no account of the forces driving change between the phases (Gorodtsov 1927). As a result, Russian archaeologists in the late nineteenth and early twentieth centuries were less committed to the evolutionary narratives that gripped the imaginations of their European counterparts. While France, England, and Germany waged ugly contests over claims to the legacy of the ancient world (waged in philology, archaeology, anthropology, and competitive museology), Russian archaeology focused primarily on form, periodization, and aesthetics.

DISCIPLINING ARCHAEOLOGY IN SOUTHERN CAUCASIA

The first general survey of the ancient monuments of the Armenian Highland was initiated not in Moscow, but in Venice by Ghevond Alishan. Alishan corresponded with teachers in several of Armenia's provinces to create detailed lists of known sites. The result was a series of regional studies that treated ancient ruins as potential sources for understanding the historical formation of the Armenian Highland (e.g., Alishan 1881, 1899). Yet only with the arrival of the Russian imperial bureaucracy in cities such as Tiflis (Tbilisi), Baku, and Aleksandropol (Gyumri) did formal institutions of archaeological investigation begin work in the region.

The 1850s saw the initial emergence of the primary imperial and local institutions that would come to dominate archaeological research and exhibition in the South Caucasus. The Imperial Archaeological Society (founded in St. Petersburg in 1851) and the Imperial Archaeological Commission (IAK, founded 1859) oversaw much of the initial fieldwork in the region. In 1852, the Russian Imperial Geographic Society opened a Caucasian department in Tbilisi and held the first exhibition of antiquities and ethnographic materials from the region in 1855. The department amassed a sizable antiquities collection during the next decade thanks to private donations from collectors such as Rafael Eristavi, Vladimir Sollogub, Gabriel Tokarev, Friedrich Bayern, and Adolf Berzhe. In 1864, the Caucasian department was shuttered and its collections became the foundation for the Kavkazskii Muzei (Museum of the Caucasus) which opened in Tbilisi three years later.

The first programmatic excavations in the South Caucasus were conducted in 1871 when E. Yeritsov (a.k.a. Yeritsyan) opened twenty-three “pre-Christian” burials at Akner, in the Debed River canyon (pl. 4). Yeritsov's report in the newspaper *Kavkaz* (September 1871) marks the first publication of the results of archaeological research in Caucasia. That same year, the Austrian scholar Friedrich Bayern began his investigations of the cemeteries at Samtavro, near Mtskheta (Bayern 1885; Abramishvili 2003). New building projects throughout Caucasia resulted in the discovery and exploration of several major sites. For example, construction of a Russian military base in Aleksandropol uncovered an “ancient” burial at Sev Amrots (Black Fortress). G. D. Filimonov collected the materials from the disturbed tomb, which included bronze swords, daggers, and arrowheads, and published them in 1876. Similarly, construction of a road between Akstaf and Dilijan in 1850 uncovered a large cemetery at Redkin-Lager (named for the construction engineer on the project) and in 1879, Bayern examined eighty-six burials at the site. In his publication of the Redkin-Lager materials, Bayern (1882) offered the first effort at a regional archaeological sequence for the Caucasus, arguing that the materials from the site pre-date the pit burials at Samtavro. The materials from Koban (in the North Caucasus) and the Qazbegi sites in Georgia, he suggested, represent more recent phases within the same sequence (Abramishvili 2003: 12).

A regional branch of the Imperial Archaeological Commission was established in Tbilisi during the 1880s, providing a direct stimulus to research and access to the first scholarly journal of archaeological research in Russia — the IAK's *Otchetke Arkheologicheskogo Komissii* (OAK). Participation in the Caucasus branch of the IAK was interestingly diverse. In contrast to Russia proper, where archaeologists largely emerged from the ranks of military officers and aristocrats, the oil boom on the Apsheron Peninsula during the 1870s brought a wave of European and Russian entrepreneurs, engineers, scholars, and travelers into the region, providing an unusual intellectual cosmopolitanism that drew the Caucasus into a wider archaeological world.

The position of Caucasian antiquities within Russian imperial archaeology was formalized in 1880 when the IAK dispatched Yeritsov and Count Uvarov to the region in advance of the fifth archaeological congress, to be held in Tbilisi the following year. Uvarov excavated small soundings at the site of Armavir in the Ararat Plain, led there by an Urartian cuneiform inscription discovered in 1869 (Martirosyan 1974). The 1881 congress stimulated

considerable interest within the local intelligentsia in the antiquities of the South Caucasus. Rudolf Virchow's (1882) report on the conference proceedings, published in Berlin, effectively introduced the emerging archaeology of the Caucasus as a regional specialty for European scholars.

The 1881 congress marked the advent of an increasingly professionalized archaeology in the Caucasus, highlighted by a developing self-consciousness regarding field methods and an expanding interest in understanding artifacts in relation to complete assemblages rather than as isolated *objets d'art*. While traditional forms of collecting continued to drive some excavations well into the early years of the twentieth century, including the work of E. Rösler (1900 at Sev Amrots, 1904 at Karmirberd), P. Charkovsky (1896 at Karmirberd), M. Zacharyants (1903 at Karmirberd), and others, an increasingly professional group of archaeologists emerged in parallel.

Bayern's early reflections on the periodization of Redkin-Lager and Samtavro established a new concern for material chronologies, stimulating considerable debate over the relative dating of major mortuary complexes (Chantre 1885; Virchow 1883). These arguments over relative chronologies were based almost entirely upon presumptions of aesthetic development embedded in Gorodtsov's formalist analytical tradition. That is, "primitive" styles marked by less accomplished craftsmanship were presumed to be earlier than more "developed" styles (hence, for example, pit burials predated tombs with stone chambers).

The problem of anchoring relative sequences to absolute calendar dates was taken up in 1887 when Jacques de Morgan excavated 898 Iron Age burials in the Debed canyon (Morgan 1997). Morgan was an engineer at the Alaverdi copper mines and, in the tradition of amateur antiquarians, undertook excavations at nearby sites. However, Morgan proved to have far broader archaeological interests, publishing several synthetic works during a long career of travel, excavation, and collecting across southwest Asia. Morgan's (1889) masterful publication, *Mission Scientifique au Caucase* is divided into fourteen chronological eras from "*les Origines*" through "*les Temps Modernes*." The prehistoric periods are illustrated by extant archaeological materials contextualized in reference to topographical maps of sites, drawings of major complexes (particularly burial chambers), and roughly contemporary materials from neighboring locales.

Morgan's report was the first to position the Caucasus firmly within a broad history of the ancient Near East, closely articulating the region with major transformations in the societies of Mesopotamia, Persia, and the eastern Mediterranean. In order to suggest absolute dates for sites in the Caucasus, Morgan cited formal similarities with artifacts from neighboring areas. As a result of Morgan's work, stylistic parallels with materials from the Near East and Mediterranean have provided the primary foundation for absolute dating in the South Caucasus, even after the arrival of radiometric dating techniques. For example, arguments over the dating of Samtavro burials alone have called upon Mycenaean and Hittite (Nioradze 1931), Urartian (Kuftin 1941), and Scythian (Abramishvili 2003; Lomtadze 1974) parallels.

Despite an increasing attention to excavation method, periodization (through stylistic analyses of ceramic and metal artifacts), the integrity of discrete assemblages, and a more formal sense of proper scholarly credentials (largely promoted by the IAK in Moscow), archaeology in the South Caucasus by the end of the nineteenth century was limited in its intellectual development by several factors. In particular, lingering antiquarian priorities focused attention almost exclusively upon cemetery contexts. Mortuary sites offered remarkable artifacts suitable for museum displays, but they generally lacked the stratigraphic relationships among complexes necessary to define temporal sequences of materials. As a result, regional chronologies remained poorly defined (for example, any find of a stone tool was presumed to date a site to the Neolithic period). Only Bayern showed any interest in correlating materials across sites; and only Morgan strove to situate Caucasian discoveries within a broad historical narrative of the ancient world. Despite these limitations, archaeology in the South Caucasus was, in the last decade of the nineteenth century, on the verge of a radical transformation, largely driven by the investigations of Nikolai Marr at the medieval Armenian capital of Ani.

THE MARR SCHOOL

Nikolai Marr's investigations at Ani were a watershed in the history of archaeological research in the South Caucasus. Raised in Georgia and trained in philology in the Department of Oriental Languages at St. Petersburg University, Marr's interest in the site of Ani was sparked by two historical issues. First, Ani was the only major historically attested early Armenian capital in Caucasia whose location was well known. Earlier capitals, such as Artashat and Dvin, had not yet been securely identified. Second, Ani represented for Marr a point of enduring cultural confluence, a meeting place of Christian and Islamic worlds which, for a period in its long history, hosted

a collaborative Georgian and Armenian principality. The site thus provided a potent location for advancing his theories of pluralist national formation in the context of the specific ties between the South Caucasus and the Near East. The cosmopolitanism of ancient Ani also provided an appropriate metaphor for the collaborative redefinition of archaeological fieldwork that was to emerge from the investigations of Marr and his students.

The first season of excavations at Ani was conducted in 1892 (field seasons at Ani continued in 1893 and then ran in earnest from 1904 to 1917). Instead of investigating the site in isolation, Marr combined excavations at the city with an unsystematic regional survey of major monuments on the western and northern slopes of Mount Aragats. During this survey, he documented numerous “cyclopean” fortresses (such as Pemzashen and Garnaovit) and “pagan” cemeteries (including Kaftarlu [Panik] and Parnigegh [Anushavan]). Like his predecessors, Marr focused his excavations of prehistoric sites primarily on cemeteries (including a large-scale investigation of the graves at Vornak). However, the effort to understand Ani in relation to nearby historic and prehistoric monuments marked a significant move away from the traditional focus on isolated sites that had limited earlier work in the Caucasus (Marr 1990). In addition, his concern to document both cemeteries and settlements suggests an increasing complexity to archaeological practice and heightened ambitions for archaeology’s role in historical reconstruction.

Marr’s approach to archaeological interpretation was strongly shaped by his philological training and interests in historical linguistics. In 1915, he forwarded a strong theoretical attack on the aristocratic pretensions of European humanism, rooted in the emerging school of Russian culture history. European humanism, he complained, presumes a single model of cultural achievement, rendered in the image of the Great Powers, and a singular narrative of historical development that culminated in Victorian industrialism. Marr advocated a new form of scientific history of world civilization built on a close understanding of particular *national* histories. The histories of ancient nations, he argued, shows that not only Europeans can claim a part in the development of world culture. Every nation, large or small, makes significant contributions to human history (Marr 1995: 54).

It is tempting to read Marr’s resistance to the “just-so” stories of nineteenth-century European humanism as an intellectual twin to the critiques of cultural evolutionism advanced by Marr’s contemporary in the United States, Franz Boas. Both shared a commitment to cultural relativism and historical particularism. However, as Marr moved away from his archaeological research to immerse himself in his own approach to historical linguistics, he moved into a form of social evolutionism that embraced the relations between economic and social formation defined by Karl Marx (particularly after the Bolshevik revolution) even as he eschewed the liberal imperialism of Herbert Spencer.

Following the revolution, Marr ceased his archaeological investigations to concentrate on the linguistic research which made him one of the most influential scientists of the early Soviet Union. But Marr’s most lasting contributions to archaeology in the South Caucasus were his students. The Marr School included many young scholars who would become the leading lights of the next generation in fields ranging from architectural history (Toros Toramanyan) to philology (Iosef Orbelli) to archaeology (Ashkharbeck Kalantar) to medieval history (Nikolai Tokarsky). It was the Marr School that provided the foundation for uniquely vibrant indigenous traditions of archaeological scholarship in Georgia and Armenia that dominated twentieth-century research in the region.

Marr’s multi-disciplinary approach to archaeological inquiry and his concern to investigate not simply sites, but regions, strongly shaped the priorities and activities of his students. Beginning in 1914, while still a participant in the research at Ani, Toramanyan (1942, 1948) compiled a catalog of the major architectural monuments of Armenia. While his emphasis was primarily on the remains and ruins of medieval buildings (particularly churches), he also carefully documented a large number of earlier settlements, including the remains of large fortified citadels, and, on occasion, cemeteries (most notably the kurgans at Oshakan). Toramanyan’s research provided the first comprehensive descriptions of the extant architecture at historic and prehistoric sites that were to later host major archaeological investigations, including Tsaghkahovit, Horom, Aragats, Shamiram, Oshakan, Dovri, and Metsamor.

However encyclopedic Toramanyan’s records were, his work was not simply an extrapolation of antiquarian forms of cataloging. He also strove to frame architecture as a source for understanding past social worlds. In his description of Horom, for example, Toramanyan (1942: 18–21) details at some length the contrast between the skilled semi-ashlar masonry and well-carpentered fortifications on the north hill and the irregular, largely unworked stone defenses of the south hill. These formal and aesthetic distinctions, he argued, reflected the basic class order of the ancient city, with the elite quartered inside the north hill’s elegant walls and the commoner class enclosed within the south hill’s more haphazard constructions. Although subsequent work at Horom (Badaljan et al. 1992, 1993, 1994; Badaljan, Kohl, and Kroll 1997) found the distinction between the hills to be chronological rather than sociological (the south hill was built during the Late Bronze Age and the north during the Urartian era), the

effort to utilize architectural remains as a key to social reconstruction was a unique contribution to the interpretive repertoire of archaeological theory in the Caucasus.

Ashkharbeck Kalantar, another graduate of Marr's Ani school, shared Toramanyan's ambition to compile regional site catalogs. Unlike Marr and Toramanyan, Kalantar's regional investigations, particularly those he conducted on the southern slope of Mount Aragats and the western slopes of the Gegham range, were the first to explore the archaeological landscape more broadly through the interconnections between sites (Kalantar 1994). Kalantar's initial surveys were similar in practice and scope to those conducted by Marr. In 1912, Kalantar was dispatched by the Russian Imperial Academy of Sciences to the Imirzek (Vanstan), Surmalu, and Lori regions to record the major monuments, inscriptions, and sites of each region. But by the 1920s, Kalantar had substantially augmented the traditional parameters of the regional cataloging survey that had been the primary mode of practice since the previous century. Moving away from the fortresses and cemeteries that were the primary preoccupation of Bronze Age archaeology, he began to look at patterning in inter-related archaeological phenomena. In mapping the ancient canals that he found on the Aragats and Gegham slopes, Kalantar not only established a new archaeological interest in ancient irrigation networks (several decades before Karl Wittfogel [1957] would focus the attention of Near Eastern archaeologists on irrigation facilities in Mesopotamia), he also argued that these features must be understood as part of the economic systems that supported Bronze Age fortified settlements which he believed integrated into a broad-scale regional landscape. Kalantar's precocious work effectively introduced the concept of settlement patterns to archaeology in the South Caucasus and pushed archaeological interpretations toward more complex models of economy and production.

The later years of the Ani investigations (concluded in 1917) were tumultuous times that deeply impacted the conduct of archaeological research in the region, its institutional locations, and its interpretive priorities. The expansion of World War I beyond Europe to incorporate a contest in the South Caucasus between Russia and the Ottoman Empire brought with it the unfathomable horrors of the Armenian Genocide and the brief emergence of the independent republics of Armenia, Georgia, and Azerbaijan. In general, archaeological research was halted during the War, with the notable exception of the excavations that Marr and Orbelli (1922) conducted in 1916 at Van Kale just behind the Russian-Ottoman front. With the creation of the Armenian Republic and its capital at Yerevan, two new institutions were founded that would come to shape archaeological research in the twentieth century: Yerevan State University and Yerevan State Museum. In 1919, Kalantar left his post as Keeper of the Asiatic Museum in St. Petersburg and became one of the founding members of the new university in Yerevan.

With the advances of the Red Army into the South Caucasus and the formation of the new Transcaucasian Socialist Republics, the Yerevan Museum and State University were reconstituted within the framework of a new Soviet Armenia. From the end of 1920 to March 1922, the South Caucasus experienced considerable political tumult in contests between Bolsheviks, Mensheviks, and rear guard nationalists. On December 10, 1922, Armenia was incorporated as a republic within a single Transcaucasian Federated Soviet Socialist Republic (ZSFSR), along with Georgia and Azerbaijan, which three weeks later was admitted as a founding member of the Union of Soviet Socialist Republics (Suny 1993b: 216). Alongside these institutions, a new Commission for the Preservation of Antiquities was founded in Yerevan in 1923 as part of the Peoples Commissariat of Education. The following year, the Armenian Institute of Science and Art was inaugurated, putting in place the last of the four major institutions that continue to the present to shape archaeological research in Armenia.

CULTURE HISTORY AND HISTORICAL MATERIALISM, 1924–1959

Between 1924 and 1939, the four major institutional locations for archaeology in the Armenian S.S.R. — Yerevan State University, Yerevan State Museum, the Commission for the Preservation of Antiquities, and the Institute of Science and Art — underwent numerous episodes of reorganization and renaming. In 1930, a department of archaeology was founded within the university with Kalantar as its first director. Two years later, the Institute of Science and Art was renamed the Institute of the Material Culture of Armenia, only to be reorganized again in 1937 when the Armenian branch of the Academy of Sciences of the U.S.S.R. was established, subsuming all research institutes under its auspices.

The tumult that repeated renaming and reorganization created for the major institutions of archaeological research pales in comparison to the personal misfortunes that Stalinism brought with it. Among the many archaeologists sent to the Gulag during the purges were Kalantar (arrested in 1938, he died in prison in 1942) and Evgenii Baiburtyan. Baiburtyan trained at Moscow State University in the archaeological branch of the Department of

Ethnology, completing his degree in 1925 under Gorodtsov's direction. Throughout the late 1920s and 1930s, Baiburtyan conducted excavations at numerous prehistoric sites in Armenia, including Gyumri (in 1929), Elar (in 1928), Shreshblur (in 1935), and Shengavit (from 1936 to 1938). In each of these excavations, Baiburtyan used close control over stratigraphy and stylistic seriation of ceramics to develop a sense of the methodological parameters necessary for formulating a close periodization of archaeological sites (Baiburtyan 1937).

Baiburtyan's most lasting contribution to regional archaeology developed out of his work at Shengavit (Baiburtyan 1938). Wedding his own formalist sense of material culture to a broader understanding of regional comparative investigation stimulated by the Marr School, Baiburtyan proposed that Shengavit represented an early florescence of a single archaeological culture — the Kura-Araxes. Sadly, on the day before Baiburtyan was to defend his dissertation outlining the parameters of this new culture-historical formulation, he was arrested and sent to Siberia (Piotrovskii 1995).

THE FORMULATION OF MARXIST CULTURE HISTORY

While the Stalinist attacks upon intellectuals entailed catastrophic losses to the field of archaeology, there is perhaps one serendipitous moment. Boris Kuftin began his career in St. Petersburg, but following his arrest and exile to the peripheries he landed in Tbilisi. During the years that Kuftin spent in Georgia, he examined some of the most noteworthy sites of the prehistoric Caucasus, including Ozni-Beshtasheni and the Trialeti kurgans. But Kuftin's most lasting impact was his clear articulation of a culture-historical approach to Caucasian prehistory. Kuftin (1944, 1946) was the first to systematize the investigations of the previous half century into a spatially extensive and chronologically delimited periodization of integrated culture groups. Highly influenced by the early work of V. Gordon Childe in Europe, Kuftin outlined a series of historically successive culture areas that were unified by shared material culture forms and styles. The florescence of the Kura-Araxes culture, he proposed, was marked archaeologically by a remarkably homogeneous repertoire of black-burnished ceramics with red/brown interiors (Kuftin 1944). In some respects, the ingredients for a culture-historical approach focused on locating material types in space and time had been part of regional investigations since Marr. Kuftin's primary innovation was his move away from *narod* (people, or nation) as the organizing unit of material production to embrace *kul'tura* (culture). Insofar as it was mobilized to describe the relation between material culture and socioeconomic life, the culture concept provided early Soviet archaeology with a conceptual locus for defining a materialist prehistory that understood homogeneity across artifact assemblages as the result of shared relations of production rather than shared perceptions of national identity. And yet, national character remained deeply embedded in the culture concept.

Kuftin's culture history made a lasting impact upon archaeology in the Caucasus because it established a comparative method and a singular vocabulary for framing individual sites and artifacts in relation to a far larger corpus. But with major archaeological cultures defined as the primary subjects of archaeological interpretation there remained two considerable intellectual problems. The first was the problem of historical transformation within and between the phases of this new schema. The arrival of historical materialism, in the form of Marxism-Leninism, provided both a clear model of social evolution and a theoretical defense for the study of economy as the foundation for all social change. As in other parts of the world, the privileging of evolution in historical interpretation carried with it the concomitant denunciation of migration and diffusion despite considerable evidence that large- and small-scale population movements were powerful forces in the social history of the Caucasus.

The second problem that followed on the new culture-historical approach was the articulation of prehistoric culture areas with contemporary national groups. Unlike the direct historical approach defined by A. V. Kidder (1924) in the American Southwest to push the histories of ethnographically known groups back into the prehistoric past, culture history in the South Caucasus started the other way around: it first established prehistoric culture areas as primordial loci of ethnogenesis, leaving the far more difficult ground of protohistoric connections to contemporary nationalities of the U.S.S.R. open to intense, and often ill-informed, speculation. The influence of Marr's theory of linguistic transformation provided a further bulwark to envisioning all existing peoples of the U.S.S.R. as essentially autochthonous. As a result of Marrism,

... the most ancient populations became an unmoving autochthonous mass that from time to time experienced incredible transformations in culture and language in response to changes in technology. For example, in the Crimea, Japhetic-speaking Cimmerians became Iranian-speaking Scythians, who in turn became German-speaking Goths, and finally Slavs (Bulkin, Klejn, and Lebedev 1982: 275).

Both of these issues came to the center of archaeology in the South Caucasus in the work of Boris Piotrovskii.

HISTORICAL MATERIALISM IN PRACTICE: THE IMPACT OF KARMIR-BLUR AND GARNI

Piotrovskii was trained in St. Petersburg where his interests gravitated toward the ancient Near East, particularly Egypt and later Assyria. It was this interest in the ancient Near East that brought him initially to the South Caucasus in the 1930s where he hoped to explore the links between Near Eastern civilizations and the southernmost territories of the U.S.S.R. (Piotrovskii 1995). Piotrovskii's initial work included surveys similar to those conducted by Kalantar, documenting cyclopean fortresses in the Aragats region and the Sevan basin (Adzhan, Gyuzalian, and Piotrovskii 1932; Piotrovskii and Gyuzalian 1933). When, in 1936, an Urartian cuneiform inscription was uncovered at the site of Karmir-Blur, on the outskirts of Yerevan, Piotrovskii initiated what was to become the largest and longest-lived excavation project ever conducted in southern Caucasia.

Like Marr at Ani, the excavations at Karmir-Blur (ancient Teisheba URU), became the primary training ground for a new generation of archaeologists. Steeped in the new models of culture history, the graduates of Piotrovskii's school emerged with a strong, if largely implicit, theory of the role of economy in driving social and political transformation. Piotrovskii's historical thought generally fits well within the prevailing Marxist theoretical current that served as analytical dogma within the Stalinist period. But Piotrovskii's attention to Urartian political economy was also driven in large part by the fact that what survived at Karmir-Blur were vast arrays of large storage rooms. To excavate Karmir-Blur and not focus on political economy would have seemed rather perverse. Although Piotrovskii wrote extensively about Urartian art, politics, and social life, the economy of empire remained the foundation upon which superstructural elements were predicated. While it may be tempting to note the parallel form of economic functionalism that developed concurrently in England, particularly in Grahame Clark's (1954) work at Starr Carr, Piotrovskii did not strive to understand economics as an adaptation to a physical environment. Rather, the economies of ancient empires like Urartu were of an evolutionary type that arose from the internal order of social classes and the logics of production, not from the regulatory mechanisms of natural environments (Piotrovskii 1959).

At the same time that Piotrovskii was excavating Karmir-Blur, Babken Arakelyan (1951) undertook a similarly large-scale investigation at the site of Garni, in the western Gegham foothills. Visible remains of monumental Greco-Roman architecture had been reported at the site since the eighteenth century (Khatchadourian 2008b), but the occupations at Garni spanned a broad horizon from the third millennium B.C. through the first millennium A.D. Thus, unlike the single-period occupation being examined by Piotrovskii at the fortress of Karmir-Blur, the investigations at Garni provided a vast historical canvas on which to write. As a result, a similarly skilled team of scholars worked and trained on Arakelyan's project, including Gevork Tiratsyan, Zhores Khachatryan, and Emma Khanzadyan. Arakelyan's research interest at Garni focused primarily on the classical-period Armenian kingdoms and their ties to countervailing cultural currents emanating from the south (Parthia) and the west (Rome). Along with Garni, his succeeding projects at Armavir (1962–1969 and subsequently continued by Tiratsyan and presently Inessa Karapetyan) and Artashat (beginning in 1970 and continuing to the present under the direction of Khachatryan) have largely defined the archaeology of ancient Armenia during the late first millennium B.C. and early first millennium A.D. (Khatchadourian 2008b).

The generation of students that trained at Karmir-Blur and Garni, including Martirosyan, Esaian, T. Khachatrian, and Khanzadyan, was the first to undertake synthetic accounts of the economic bases for shifts in prehistoric and early historic culture history. Martirosyan (1964) in particular offered one of the most insightful accounts of both the archaeological composition of major culture-historical groupings and the forces driving their rise and fall. Similarly, his work at the Urartian city of Argishtihinili (1974) set the city within the far wider currents of urban sociology and political economy.

In 1959, the Institute of Archaeology and Ethnology was separated from the Institute of History within the structure of the Armenian Academy of Sciences and Arakelyan was appointed its first director. The moment was salutary in that it marked the realization of archaeological research as a discrete disciplinary tradition within Caucasian scientific institutions. But the date can also be read more broadly as the beginning of another generational shift in the archaeology of the Caucasus. With the death of Stalin in 1953, the most dangerous and tumultuous period of research in the U.S.S.R. came to an end. With the new decade of the 1960s, the students of Piotrovskii and Arakelyan became major driving forces in both research and theory.

STRANGE BEDFELLOWS: FROM MATERIALIST ARCHAEOLOGY TO NATIONAL ARCHAEOLOGIES, 1959–1980

Writing an overview of the problems and priorities that oriented archaeological thought in Armenia during the 1960s and 1970s is exceedingly difficult. In one sense it is easy to compile a list of the major archaeological projects of this era and the historical periods that they targeted: Khachatrian's (1963, 1975, 1979) investigations of Bronze Age remains at Harich and Artik; Khanzadyan's long-term exploration of Bronze and Iron Age levels at Metsamor (Khanzadyan 1995; Khanzadyan, Mkrtchian, Parsamian 1973), Elar (Khanzadyan 1979), and Jrahovit; Martirosyan's (1974) excavations at Argishtihinili; Arakelyan, Tiratsyan, and Khachatrian's research into the mid- to late first millennium A.D. at Armavir (Tiratsyan 1973, 1976, 1988) and Artashat (Arakelyan 1975, 1982; Invernizzi 1998; Khachatryan 1981); and the long-term investigation of the medieval Armenian capital at Dvin by S. V. Der-Avetisyan, Karapet Kafadaryan, and Aram Kalantaryan (Karakhanyan, Kafadaryan, and Kalantaryan 2002; Kalataryan 1976, 1996). These were major projects that still provide the key material assemblages which structure artifact typologies and site periodizations.

Unfortunately, this list provides little orientation to the primary theoretical concepts that guided what was by then a mature Soviet archaeology. As in most other world traditions of archaeological research, many of these sites received the attention they did because they were large (in some cases, historically known "capital" cities) and offered remarkable potential to recover art-historical treasures as well as imported goods. In a less superficial sense, it is important to note that the major excavations of the era targeted sites that represented the apogee of their given archaeological period. That is, none of these sites, with the possible exception of Metsamor, provides us with a sense of sociocultural development and transformation over time. Rather, they represent the "high-water" marks of their eras (Lindsay and Smith 2006).

The inevitable result of this research design was a close account of the most highly elaborated traits of a given era, but very little attention was paid to how each era folded into its successor or emerged from its antecedents. As discussed below, this had serious consequences for the anthropological issues that grounded archaeological interpretation, but most immediately, it established a historiographic approach that was pre-occupied with the exceptional at the expense of the more typical, the center at the expense of the margins, the elite at the expense of the common, the fully developed at the expense of the emergent.⁹ In other words, 1959–1980 in southern Caucasia was an era of "great site" archaeology. It should quickly be pointed out that there is nothing inherently wrong with this approach, particularly at a time in the archaeology of the region when establishing basic frameworks for periodization remained critical to advancing archaeological research. However, it is important to acknowledge the limitations of this approach as well.

As great sites came to dominate field research, they were often read as microcosms for historical trends within broad regional zones. While the preceding decades of regional research had shown little concern for delimiting archaeological zones in relation to geographic distinctions, during the 1970s Armenia was effectively partitioned into a series of discrete archaeological provinces: the Shirak Plain, the Ararat Plain, the Sevan basin, the mountainous northeast, and Syunik in the south. Unfortunately, there was little consensus as to how an account of regional transformations might be defined through archaeological research. Khachatrian (1975) based his seminal *Drevnaya Kultura Shiraka* on excavations at just two sites, Harich for its Early Bronze Age settlement and Middle Bronze Age burials and Artik, a large Late Bronze Age cemetery, but he examined these two sites at a very large scale (for example, his excavations at Artik opened 640 catacomb burials). Esaian (1976), working in northeastern Armenia, and Xnkikyan (2002), working in the Syunik area to the south, also penned regional synthetic volumes. In contrast, their work documented a large number of sites from the Bronze Age through the Iron Age, but the scale of their investigations at any one site was quite limited. These regional investigations are extremely valuable for the record they provide of major monuments, but neither of these approaches to archaeological research design were based upon well-theorized accounts of how to read regional trends from localized data. As a result, no systematic methodologies for regional survey were developed.

As in America and Europe, the 1970s saw the increasing application of natural science techniques to archaeology in the U.S.S.R. and the South Caucasus in particular. Volumes on the spectral analysis of metal artifacts (Gev-

⁹ There are of course exceptions to this general rule, such as from major centers. However, these projects were quite small and Karapetyan's work at Karchaghyur, which sought to move away short-lived compared to the "great site" excavations.

orkyan 1980) and faunal remains (Mezhlumyan 1972) effectively broadened the analytical approaches available to archaeology. Despite these significant additions to the repertoire of archaeological analysis, very little changed in the discipline's interpretive priorities. The chronologies and periodizations forwarded by Martirosyan in the 1960s continued to be used, even though mounting evidence suggested the necessity for re-evaluation. Furthermore, the same form of basic historical materialism that developed in both Piotrovskii's and Martirosyan's writing remained the end of most interpretation.

An important theoretical trend of the 1970s was the emergence of a new interest in the impact of environmental changes on human settlement and land use (e.g., Kushnareva and Chubinishvili 1970). These ecological approaches proved particularly useful in bridging theories of human migration (long thought too contingent to fit into Marxist-Leninist history) with evolutionary accounts of archaeological transformation. Unfortunately, there was no concomitant effort to produce environmental reconstructions that might support such assertions. As a result, ecological change became simply a convenient, intelligible source of rapid cultural transition, but never itself an object of inquiry.

Even as archaeological practice and interpretation in the South Caucasus, and the U.S.S.R. more generally, embraced natural science techniques and explanatory models — paralleling similar moves by the New Archaeology in the United States (e.g., Binford 1965; Clarke 1968; Flannery 1967) — it was pulled inexorably into the intellectual transformations at work in Soviet nationalities policy. It is worth noting that the Bolshevik sovietization of the South Caucasus entailed a reaffirmation of the salience of national difference within the context of proletarian brotherhood, not a dissolution of nationalist false consciousness (Marx and Engels 1978: 488). While Piatakov and Bukharin argued against vesting the self-determination of Soviet peoples in “some fictitious so-called ‘national will’” (Martin 2003: 94), Lenin believed that by acceding to local aspirations to nationhood within a federative socialist republic, particularly on the tenuous peripheries of the old empire, the Bolsheviks could divide local all-class nationalist parties and foster the ultimate formation of an abstract proletarian consciousness. In other words, the nationalities policies in place as the republics of the South Caucasus were brought into the Soviet Union in 1920 and 1921 effectively adopted the position Marr had championed at the end of the nineteenth century: “humanity can only arrive at the inevitable fusion (*sliianie*) of nations through a transitional period of complete freedom of all oppressed nationalities” (Lenin 1928: 425). As a result, “Rather than a melting pot, the Soviet Union became the incubator of new nations” (Suny 1993a: 87).

The U.S.S.R. was unique in that its multi-ethnic structure was predicated upon the revocation of political sovereignty for nations even as it reproduced nationalities through a territorial order predicated on ethnicity, educational and cultural institutions that fostered local languages and traditions, and what Terry Martin (2001) has termed “affirmative action” policies that elevated non-Russians to senior positions. Under Stalin, Russification effectively diminished national institutions as collectivization, the forced teaching of Russian, conscription in the Red Army, the shared traumas of the Gulag and the Great Patriotic War, and the dissemination of the cult of personality did much to forge a sense of Soviet identity. Yet Stalinism also reproduced the nation as a cultural ideology that sought to constrain expressions of national identity within the Soviet order. Archaeology, but more dramatically history and cultural anthropology, became avant-garde disciplines in the complex negotiation of national and Soviet subjectivities (Shnirelman 1995, 2001).

But with Stalin's death in 1953, “patriotic” expressions of national spirit were tolerated and encouraged even as separatist movements for national political autonomy were suppressed. It is in this context that archaeology in the 1960s and 1970s came to play a vital role in distinguishing the patriotic from the nationalist. In Armenia, the deployment in public architecture of motifs derived from the iconographic repertoires of the first-millennium B.C. Urartian empire certainly constituted one way in which archaeology was drawn into the project of national memorialization. The priorities of great site archaeology also reflect the larger agenda of Soviet nationalities policy. Excavations at Karmir-Blur, Armavir (1962–present), Garni (1949–present), and Artashat (1970–present) constituted the flagship expeditions of Armenia's archaeological community during the 1960s through the 1980s (although excavations technically continue at these sites, the constriction of funds has greatly reduced the scale of investigations since 1991). The large-scale restoration of the Urartian site of Erebuni in the early 1970s (to mark the 2,750th anniversary of the founding of Yerevan; see *Chapter 1*) and the reconstruction of the Greco-Roman monument at Garni in the 1960s, both bolstered Soviet programs of national memorialization. It is not coincidental that these sites allowed for the development of forms of “tourist patriotism” that highlighted the accomplishments of a nation even as they studiously avoided providing a rallying point for nationalism.

CRISIS, TRANSITION, AND TRADITION, 1980–PRESENT

The last twenty-five years of archaeological research in Caucasia have produced a significant transformation in archaeological research practice. In Armenia, a new generation of students has embarked upon a concerted revision of Martirosyan's chronologies and periodization, utilizing new stratigraphic data and a slowly increasing battery of radiocarbon dates to buttress their arguments. In particular, Gregory Areshian's work in the 1980s sparked a broad re-evaluation of the sequences and structures that had long ordered archaeology in Armenia. Furthermore, smaller sites and peripheries moved to the foreground of research. For example, the most recent major excavations at Urartian sites in Armenia were those conducted at Horom (Badaljan et al. 1992, 1993, 1994; Badalyan, Kohl, and Kroll 1997), Aragats (H. Avetisyan 1996, 2001), Aramus (H. Avetisyan 1997), and Oshakan (Kalantaryan et al. 2003). Both Aragats and Oshakan were small outposts in the center of the Ararat Plain, and although Horom is quite large, it does not appear to have been a typical Urartian center but rather an oddly gargantuan frontier site, perhaps even administered by an allied local ruler rather than directly by an Urartian governor.

It is certainly true that one of the major factors driving recent shifts in archaeological research in the South Caucasus has been the funding crisis precipitated by the collapse of the Soviet Union, wars in Nagorno-Karabakh, Abkhazia, and South Ossetia, the devastating earthquake of 1988 in Armenia, and the region's precarious economies. These sociopolitical transformations provide the context for what has been a no less transformative era in the history of archaeological thought. In Georgia and Azerbaijan, the advent of large-scale salvage archaeology, necessitated by the construction of oil pipelines, has provided considerable support for archaeology at a truly difficult time and provided new data sets (e.g., Licheli 2003) from along the surveyed corridor. Salvage archaeology is less developed in Armenia where large-scale international construction projects have been far fewer than in the neighboring republics; however, Esaian and Kalantaryan's recent work at Oshakan following the illegal construction of a cell-phone transmittal tower does stand as a model for future CRM investigations.

The arrival of collaborative international research programs has also played a considerable role in recent shifts in regional theory and practice. While Project ArAGATS, founded in 1995, is presently the longest-lived international research program in the region, it was by no means the first. Interest in the South Caucasus during the era of détente often arose from problems in the archaeology of southwest Asia. Marilyn Kelly-Buccellati's (1974) dissertation on the Early Transcaucasian Culture (Kura-Araxes) and Karen Robinson's (1976) examination of Middle Bronze Age materials from Trialeti were two of the earliest American engagements with materials from the Caucasus. Both dissertations emerged out of research agendas shaped by an interest in the archaeology of the northern highlands of the Near East.

Sustained international collaborative field investigations in the South Caucasus only began in earnest during the era of perestroika. One of the first, and most ambitious, of these programs was the International Program for Anthropological Research in the Caucasus (IPARC). Founded by Philip Kohl, Ruben Badalyan, and the late Zaal Kikodze in the 1980s, IPARC strove to conduct collaborative investigations across the North and South Caucasus with excavations at Horom, Satkhe (southern Georgia), and Velikent (Daghestan, Russia; Gadzhiev et al. 1995, 1997) and informal surveys in northern Azerbaijan. Kohl came to the Caucasus, after working in Iran, Afghanistan, and Central Asia, with an abiding interest in examining macro-scale flows of goods across historically shifting exchange networks. The investigations of IPARC thus mark the arrival of an original research model in the Caucasus centered on detailing a unified prehistory of the isthmus forged through truly international collaborative field investigations.

Kohl's pioneering move to the Caucasus opened the door for a host of new international research programs, including Project ArAGATS. Subsequent collaborations in Armenia alone have included scholars from the United States, Italy, Germany, France, Russia, and Austria. These programs have conducted both regional surveys and excavations, investigating problems from the Paleolithic peopling of the region to the coalescence of empires. In addition, these collaborative programs have brought with them new methodologies, new opportunities for the application of analytical technologies to archaeological materials, and new dialogues regarding the interpretive agenda of archaeology in Armenia. The anthropological and historical priorities of this emerging research agenda are the foci of the next chapter.

CHAPTER 3

HISTORICAL AND ANTHROPOLOGICAL PROBLEMS IN THE ARCHAEOLOGY OF SOUTHERN CAUCASIA

ADAM T. SMITH¹⁰

The investigations of Project ArAGATS were developed in reference to a series of historical and anthropological problems that currently orient archaeological research in southern Caucasia. Our investigations were driven initially by a particular interest in the rise of complex societies during the mid-second millennium B.C. However, we were keenly aware that by its very nature, systematic regional survey would allow us to contribute to a range of issues from the development and expansion of Kura-Araxes village communities during the Early Bronze Age through the shifting tides of political and cultural interaction during the first millennium B.C. In outlining here the key problems for each major archaeological period, we not only hope to describe the current state of affairs but also to in some measure set the agenda for future investigations.

The complex intellectual history of archaeological research in the South Caucasus described in *Chapter 2* provides the basic framework for contemporary investigations, both in terms of the guiding theoretical issues and the parameters of chronology and periodization. Yet the region now stands at a moment of considerable intellectual flux. Recent efforts to revise Martirosyan's long-standing periodization have produced important new debates over the key diagnostic features and absolute temporal boundaries of the Bronze and Iron Ages, and the recent growth of work in eastern Turkey on sites clearly part of a broader Armenian Highland archaeological ecumene has produced new struggles over chronology and nomenclature. Furthermore, the advent of new collaborative research programs, methods of data collection, and techniques of analysis hold considerable promise to expand the range of anthropological and historical problems orienting archaeological inquiry.

It is important to note that throughout this volume, we have adopted a set of terms that in some cases derive from the practice of archaeology in Caucasia and in others depart from standard usage. Most notably, rather than using the word "culture" to describe a geographically delimited suite of similar material culture styles (e.g., "Trialeti culture"), we use the term "horizon." There is far too much slippage in Eurasian archaeology between the archaeological sense of culture and its anthropological usage to define a self-conscious group of communities with shared traditions, practices, and senses of identity. An archaeological horizon refers solely to a suite of material culture assemblages that displays sufficient homogeneity in form, style, and perhaps technology to be classified heuristically as related phenomena. The problem with the word "culture" in these cases is that it prefigures an explanation for empirical observations, presuming that similarity arises from shared traditions, practices, and identities. The source of perceived homogeneity (and indeed its underlying variability) is an archaeological question to be investigated, not one to be presumed by our terminology.

NEOLITHIC ANTECEDENTS

The Neolithic and Chalcolithic (Eneolithic) periods (pl. 5) have recently emerged as revitalized domains of archaeological research (Chataigner 1995; Avetisyan, Engibaryan, and Sargsyan 2006). Kuftin (1944) originally assigned the Kura-Araxes horizon to the "Eneolithic," arguing that it represented the earliest agricultural communities in the Caucasus. Subsequent revision of the region's periodization reassigned the Kura-Araxes to the Early Bronze Age (see particularly Martirosyan 1964), thus opening a new space for investigation into its progenitors.¹¹

What defines the Neolithic within the Soviet and post-Soviet tradition tends to begin and end with food production — early farming and stock rearing (Masson 1971: 160; Mongait 1961: 197) — while the Chalcolithic (or

¹⁰ An earlier version of portions of this chapter appeared in the *Journal of World Prehistory* (Smith 2006).

¹¹ Both E. Krupnov and R. Munchaev were convinced of the salience of this new Neolithic phase to the prehistory of the region from Eastern

Europe to Central Asia, leading Krupnov (1964: 41) to remark rather cryptically: "The Caucasian Neolithic is our Carthage."

Eneolithic, a term more generally used across Eurasia) is defined most notably by initial experiments with unalloyed metal (Kushnareva 1997: 41; Munchaev 1982). Overall, there are relatively few radiocarbon dates extant from Neolithic and Chalcolithic sites, forcing absolute dating to rest largely upon Near Eastern parallels, stratigraphy, and convention.

The transition from the Mesolithic to the aceramic Neolithic is traditionally dated to the late seventh millennium B.C., while radiocarbon determinations from ceramic Neolithic sites of the Shulaveri-Shomu horizon suggest this later Neolithic phase began sometime in the early sixth millennium B.C. (Kavtaradze 1983; Kiguradze and Menabde 2004). Recent radiocarbon results from the site of Aratashen in the Ararat Plain situate the site's early ceramic Neolithic occupation level (II) firmly within the second quarter of the sixth millennium (Badalyan et al. 2005: 38). The Neolithic/Chalcolithic chronological boundary is uncertain, creating for some, such as Masson (1982: 8), an agenda for future research, and for others, such as Akhundov (2004: 432), a reason to dismiss the Chalcolithic as a discrete phase altogether. Yet a recent analysis by Kiguradze and Sagona (2003) argues for an early Chalcolithic phase extending from roughly 4800 to 4000 B.C. (marked primarily by complexes from sites in northern Caucasia such as Sioni and Kviriatskhali) followed by a Middle/Late Chalcolithic dating to 4000–3200/3000 B.C. (including sites such as Tsopi, Tekhut, Berikldeebi, and Sos Höyük [VA]). Overall, this schema accords well with the limited data available at present, although the late date for the transition to the Early Bronze Age and the Kura-Araxes horizon is a matter of considerable debate, as discussed below.

Sites of the aceramic Neolithic period are particularly well documented in western Caucasia, including Abkhazia and Adjara. An early survey in western Georgia conducted by G. Grigolia in the 1960s recorded twenty sites; however, substantial occupation layers have been documented in only a few sites, such as Khorshi and Chkhortoli, and preservation is quite limited (Kiguradze and Menabde 2004: 350). A notable exception is the Darkveti rock shelter, on the upper Qvirila River, which revealed a Chalcolithic layer atop an aceramic Neolithic layer which in turn overlay a late Mesolithic occupation (Nebieridze 1978). Preservation at Darkveti is better than at most sites in western Caucasia, providing a suite of faunal material that includes both wild and domesticated animals. The data from Darkveti, augmented by that from the Nagutuni-type sites in Shida Kartli (Grigolia 1977), have shed considerable light on the material repertoires of the aceramic Neolithic in western Caucasia, including a bone and antler industry that produced items such as awls, punches, and needles and a lithic industry centered on microlith and blade production utilizing flint and obsidian (Kushnareva 1997: 18).

Sites from the highland middle Kura drainage of northern Caucasia and from the lowland steppes of eastern Caucasia provide critical reference points for the ceramic Neolithic and Chalcolithic, including the Shulaveri-Shomu horizon style of the late sixth–fifth millennia B.C. and the later “Sioni” complex of the early fourth millennium B.C. Investigations on the Kvemo-Kartli Plains in eastern Georgia revealed several mound sites that provided stratified ceramic Neolithic occupation layers, including Shomu Tepe, Shulaveris Gora, and Imiris Gora (Kiguradze 1976). The Shulaveri-Shomu horizon is marked most notably by curvilinear domestic architecture, which in its later phases encompasses small courtyards delineated by similarly curvilinear walls. In eastern Caucasia, Alikmek Tepesi, near Baku, has proved particularly sensational, thanks in large measure to the painted designs found on the interior walls of one of the houses as well as the non-residential structures described as storage rooms (Narimanov 1987, 1992). The architecture at the site follows the overall template of Shulaveri-Shomu horizon construction, but also departs from it in ways whose significance has yet to be clearly understood.

Comparatively little is known about the Neolithic and Chalcolithic of southern Caucasia. The Neolithic proper is largely unknown, except for levels from a small sounding at the site of Khatunarkh (Torosyan, Mikaelian, and Davedzhian 1970), whose temporal attribution hinges largely on the paucity of ceramic remains rather than a positive identification of well-described assemblages. The site of Tekhut in the Ararat Plain, excavated by Torosyan (1976) beginning in the late 1960s, has long provided the primary, if not exclusive, point of reference for the Chalcolithic period in Armenia. Tekhut's well-preserved curvilinear domestic architecture and extensive lithic and ceramic assemblages (with strong similarities to the Shulaveri-Shomu complexes) has had few local parallels with which to constitute a more general picture of the unique features of the southern Caucasian Neolithic.

Recent excavations at the site of Aratashen have helped to reinvigorate the study of the Neolithic period in Armenia. Located on the Kasakh River, 1.5 km southwest of Etchmiadzin, Aratashen was briefly explored in the 1970s by Sardaryan and in the late 1980s by Aslanyan. But it was only with the excavations from 1999 to 2004, led by Pierre Lombard and Ruben Badalyan (and since continued by Badalyan), that the significance of the site has been more clearly defined (Badalyan et al. 2004, 2005). The occupation levels at Aratashen straddle the aceramic (level III) and ceramic (levels I–II) Neolithic, situating it as a potentially critical bridge between the traditions

known from Darkveti and those documented among the Shulaveri-Shomu sites. Yet despite its geographic proximity to these sites, the pisé technique of Aratashen's earliest architecture contrasts markedly with the plano-convex mudbrick constructions of the Shulaveri-Shomu horizon (phases I–V). As the excavators note, the use of pisé ties Aratashen more directly to the building traditions at sites to the south, such as Nakhichevan Kültepe, the lower levels at Haji Firuz, and Tilki Tepe, than to the Shulaveri-Shomu sites (Badalyan et al. 2004: 400).

Such architectural heterogeneity across the South Caucasus raises the quite intriguing problem of mapping potential sociocultural fault lines within the interaction spheres of the pre-Early Bronze Age Caucasus. Even in level II at Aratashen, where pisé yields to mudbrick construction, the shape of the bricks more closely follows that used at sites to the east (such as Alikmek Tepesi) and the south (such as the upper levels at Haji Firuz). Furthermore, the excavations at Aratashen did not uncover any of the antler hoes so typical of the Shulaveri-Shomu assemblages, reinforcing a sense of discontinuity between the Kura and Araxes drainages. But even as some elements of the archaeological record from Aratashen point to lines of distinction between northern and southern Caucasia during the Neolithic, other elements of the artifact repertoire indicate the broad dissemination of a handful of conspicuous objects, such as bone spoons and “palettes,” the blade-based lithic industry, and the limited ceramic repertoire (levels I and II).

The Chalcolithic of the South Caucasus is primarily distinguished by a new suite of ceramics which include, most notably, jars with decorated rims emblematic of what Kiguradze and Sagona (2003) describe as the “Sioni complex” based on the type site, 60 km southwest of Tbilisi. In addition, wares continuous with Amuq E/F ceramics have also been recorded at sites in the lower slopes of Mount Ararat (e.g., at Mollacem north of Lake Van; Marro and Özfirat 2004). Furthermore, recent excavations at Godedzor (Avetisyan, Chataigner, and Palumbi 2006) in southern Armenia have recovered a distinctive ceramic assemblage that includes a heterogeneous collection of painted wares that appear to have close parallels with assemblages from Lake Urmia (e.g., Geoy Tepe level M and Dalmatepe) and Mesopotamia (e.g., Gawra XII). Lastly, Halaf sherds have been noted at a handful of sites in the region (e.g., Nakhichevan Kültepe and Leila Depe [Narimanov 1987]). Thus, on the one hand, we have emerging evidence for a range of ceramic traditions in the South Caucasus during the Chalcolithic. On the other hand, the majority of Early Chalcolithic assemblages appear to be largely continuous with Neolithic traditions.

With the Middle and Late Chalcolithic periods, aspects of village landscapes — such as the large “monumental” building at Berikldeebi (V2) — suggest that communities were altering their approaches to the production of internal social groups and their relations to their neighbors — as suggested by the boundary wall at Sos Höyük (VA) (Sagona and Sagona 2004). There is strong tendency in the contemporary literature to visualize these changes in the Late Chalcolithic as leading inexorably to the ultimate flourishing of the Kura-Araxes horizon. At root is a theoretical aspiration to understand the Kura-Araxes by apprehending its primordial sources. An enigmatic “proto-Kura-Araxes” (Kiguradze and Sagona 2003: 91) thus provides a precursor to the Early Bronze world to come. There is disagreement on whether current data provide evidence of a transitional suite of artifacts that link the Chalcolithic and Early Bronze Age horizons (see *Chapter 4*; cf. Kiguradze and Sagona 2003; Palumbi 2003). Unfortunately, with the exception of potentially revolutionary new findings from Sos Höyük, and perhaps Godedzor, there is little at present in the Chalcolithic archaeological record as a whole that clearly prefigures the radical sociocultural transformations that accompanied the explosive growth of the Kura-Araxes horizon.

It is therefore critical that we understand the Chalcolithic South Caucasus in its own terms rather than those of its neighbors or subsequent eras in order to grasp how and why its traditions were so quickly displaced. What within these communities made them so fragile as to be swept aside so rapidly by new socio-material practices of the Early Bronze Age? It is difficult as yet to define an agenda for the study of the Neolithic and Chalcolithic in the South Caucasus. At present, a great deal of research is of necessity centered on basic time-space systematics. Sites like Aratashen will clearly have much to contribute if we are to develop a clearer sense of dynamism and change within the pre-Kura-Araxes world of the South Caucasus. But we will also need to rid ourselves of the teleological view of the Chalcolithic which sees it primarily as a precursor to the Early Bronze Age. The Kura-Araxes is not a necessary consequence of Neolithic and Chalcolithic ways of life. We face the challenge in studies of the Neolithic and Chalcolithic South Caucasus of coming to terms with the era in its own right as host to heterogeneous ways of life founded within varying patterns of inter-regional interaction. Nevertheless, it is of course quite difficult to get away from the pressing historical question as to what happened sometime in the late fourth millennium B.C. that allowed for emergence of a new form of village life and material culture so compelling that local communities appear to have rather rapidly abandoned old ways for new, eventually merging into the most geographically extensive horizon style in the prehistoric Near East.

COMMUNITY AND DISPERSION: THE EARLY BRONZE AGE

Under the auspices of the Kura-Araxes material culture horizon (pl. 6), the South Caucasus was part of an Early Bronze Age regional ecumene which, at its height, extended from the Northeast Caucasus to the Taurus and Zagros Mountains. Termed the “Kura-Araxes culture” by Kuftin (1940), the same archaeological repertoire has also been dubbed the “Shengavit culture” (Baiburtyan 1938),¹² the “Early Transcaucasian culture” (Burney and Lang 1972), the “Outer Fertile Crescent culture” (Kelly-Buccellati 1980), and the “Culture of Northeast Anatolia” (Lamb 1954).¹³ In addition, more far-flung manifestations of related archaeological materials in the Amuq (phase H) and the Levant have been referred to as the “Red-Black Burnished Ware culture” (Braidwood and Braidwood 1960) and the “Khirbet-Kerak culture” (Amiran 1965).

The basic archaeological parameters of the Kura-Araxes horizon style have been succinctly outlined by Kiguradze and Sagona in terms of a series of inter-related traits found simultaneously in architecture, ceramics, and bone and lithic industries:

These traits include: rectilinear, subrectangular and circular houses built of mud brick or wattle and daub; portable and fixed hearths that are often anthropomorphic or zoomorphic in style; a wide range of hand built burnished pottery often displaying a contrasting color scheme of black, gray, brown and red, and sometimes bearing elaborate ornamentation; well-crafted bone implements; standardized horned animal figurines; a simple range of metal objects most of which may be classed as arsenical bronzes; and a standardized stone tool repertoire that is manufactured primarily from obsidian in the eastern areas (Kiguradze and Sagona 2003: 38).

While red-black burnished wares are its most distinctive and ubiquitous markers, the Kura-Araxes horizon also includes several related suites of ceramics, including black wares and monochrome wares (Palumbi 2003). It is important to note that a wide array of material media — metal, ceramic, lithics, architecture, etc. — are all packed into the term “Kura-Araxes” raising the very real problem of defining heterogeneity — in technical practices, in social orders, in political regimes, in cultural identities — within what quite easily becomes a vast, monolithic, homogenous culture area. Largely thanks to this tightly defined homogeneity, two issues have dominated research and debate on the archaeology of the Early Bronze Age: from whence did the Kura-Araxes horizon originate and how did it come to be so widely distributed? Both questions make sense only insofar as the Kura-Araxes is ceded a disturbingly high degree of singularity, reified as a thing rather than examined as potentially heterogeneous social orders, cultural traditions, and material practices.

The periodization and chronology of Kura-Araxes sites has long been a matter of contention. While Kuftin had assigned the Kura-Araxes horizon to the Eneolithic (see *Chapter 4*), during the 1960s, several scholars (e.g., Iessen 1963; Kushnareva and Chubinishvili 1963; Abibullaev 1963) successfully argued for its realignment with the Early Bronze Age based primarily on evidence from the stratigraphy at the site of Nakhichevan Kültepe, spectral analyses of extant metals (e.g., Chernykh 1965: 106–10; Gadzhiev 1991: 31), and a desire to conform to chronological terminology in use in Anatolia and Iran (e.g., Burton-Brown 1951; cf. Burney 1958). Recently, Kiguradze and Sagona (2003) have argued for returning the initial Kura-Araxes to the Late Chalcolithic period. In this discussion, we follow the schema that currently predominates in southern Caucasia outlined by Avetisyan, Badalyan, Hmayakian, and Pilipasian (1996) and set forth in detail in the next chapter.

The chronology for the initial appearance of Kura-Araxes ceramics (KA I, ca. 3500–2900 B.C.) is a matter of some debate at present. Traditional chronologies set the emergence of the Kura-Araxes at the opening of the third millennium B.C. (Kushnareva and Chubinishvili 1970; Martirosyan 1964). But an iconoclastic “high” chronology offered by Kavtaradze (1983) in the early 1980s and a series of new radiocarbon determinations have conspired to push the dawn of the Kura-Araxes phenomenon — or, more precisely, the initial production of recognizable Kura-Araxes ceramics — well into the late fourth millennium B.C. This would place the initial formation of the

¹² Piotrovskii (1995: 110) wrote “the honor of the discovery of this [Kura-Araxes] culture belongs entirely to E. A. Baiburtyan — he prepared his dissertation on this theme with B. A. Kuftin as his opponent [for the defense]. But when Kuftin arrived in Yerevan in 1939 for Baiburtyan’s dissertation ... Baiburtyan did not attend because he had been arrested and sent to a concentration camp where he later died. (Baiburtyan’s manuscript remained with Kuftin. And Kuftin published the materials from the excavations at Shengavit with analogical materials from Georgia in his book. But it was

[politically] impossible for him to mention the author of the works at Shengavit).”

¹³ The materials which Kuftin grouped under the term “Kura-Araxes” had been accumulating in the South Caucasus for almost seventy years thanks to excavations at sites such as Armavir (1879, by Uvarov and Yeritsov), Aragats (1893, by Marr), Nakhichevan Kültepe (1904, by Lalayan), Shreshblur (1913, Lalayan), Igdir (1914, by Petrov), Kiketi (1923, by Pchelina), Elar (1927, Lalayan), Elar (1929, Baiburtyan), and Shengavit (1936–38, by Baiburtyan).

Kura-Araxes within the second half of the Holocene climatic optimum (the end of the Atlantic optimum), a significantly warmer and moister phase.

In southern Caucasia, calibrated radiocarbon dates from Early Bronze Age tombs at Horom and Talin (tomb 10), as well as the settlement at Aparan III, all point to the existence of a full-fledged production regime for red-black burnished wares by ca. 3350 B.C. (Palumbi 2003). Slightly earlier dates from level VA at the remarkable site of Sos Höyük in northeastern Anatolia have led Antonio Sagona to suggest that the associated repertoire of ceramics, including but not limited to red-black burnished wares, arose in the region several centuries earlier than in southern Caucasia (Kiguradze and Sagona 2003; Sagona and Sagona 2004). Sagona's argument is a sophisticated one that engages with a broad suite of ceramic assemblages from the Late Chalcolithic "Sioni" wares to fully developed Kura-Araxes repertoires to posit a developmental sequence wherein the production technique yielding burnished surfaces originates in eastern Anatolia before diffusing eastward along the Araxes into the South Caucasus. A recent study by Giulio Palumbi (2003) has further added support to Sagona's argument, emphasizing the later appearance of red-black burnished wares in the South Caucasus. However, this reconstruction has not been universally embraced.

There are at least three limitations to Sagona's argument. First, we must be forthright that in trying to detail the earliest appearance of the Kura-Araxes we are dealing with a dangerously small data set. While the level VA exposures at Sos Höyük are sizable, in southern Caucasia we are dealing with a data set collected from two small tombs and a single 1.5 × 1.5 m trench at Aparan III. It would seem premature to found an entire theory of origins on this basis.

Second, the evidence from the initial Kura-Araxes sites in southern Caucasia do suggest that a fully realized set of diagnostic burnished wares were already in production in the region by about 3350 B.C., leaving open the very real possibility of a prior phase of emergence contemporary with Sos — perhaps in conversation with communities of potters all along the Araks River. It is important to keep in mind that because the number of sites bearing on this question is so small, a single new trench can force revision of the entire edifice.

Lastly, as noted above, there is reason to suspect that the debate over Kura-Araxes origins may be conceptually misplaced. Arguments for mutually exclusive points of origin tend to envision the Kura-Araxes as a monolithic package, assembled perhaps from different elements, but ultimately attaining a material orthodoxy. Palumbi (2003: 104) is quite right when he argues instead for a model of intense interaction that extends all along the highland Araks and Kura River basins during the second half of the fourth millennium B.C. What does it mean to posit that the Kura-Araxes originated in eastern Anatolia rather than Transcaucasia? What is at stake in the question? At the moment, it turns out that quite little is at stake because we do not have a clear understanding of what the Kura-Araxes actually is. If the Kura-Araxes is primarily a technique of ceramic production — for example, an approach to burnishing pottery — then extensive debates over origins seem unlikely to present an opportunity for an archaeological resolution. If the Kura-Araxes is more than a technique of production — say, a people, an ethnicity, or a culture — as is implicit in much of the literature, then we enter far more problematic terrain.

In a geographic sense, an emphasis on pots as people (contra warnings of Kramer 1977) leads us to envision the social world of the Kura-Araxes as a largely undifferentiated, homogeneous social space. The communities of the Early Bronze Age, from Daghestan to the upper Euphrates River, are reduced to a regrettable sociological sameness simply because their pottery looks very similar. Furthermore, in a temporal sense, the debate over Kura-Araxes origins as the genesis of a culture encourages us to see early experiments in burnishing pots as initial expressions of an enduring essence that reaches its logical apogee in the full florescence of the Kura-Araxes horizon. Aside from its archaeological teleology, this limits our understanding of historical process to the mechanisms of migration and diffusion/assimilation.

This brings us to the second primary focus of contemporary work on the Early Bronze Age of the South Caucasus — the expansion of the Kura-Araxes horizon during the KA II and KA III phases (traditionally dated to ca. 2900–2600 B.C. and ca. 2600–2400 B.C., respectively). The most oft-cited cause of the Kura-Araxes expansion is population pressure triggered by climate change or overgrazing (Burney 1996; Sagona 1984: 138–39). In his study of Eurasian metallurgy, Evgeni Chernykh (1992: 54–55) suggests that control over ore sources and the specialized technology of extraction and smelting may have promoted radial trade networks that linked Caucasia to its neighbors, extending as far north as the Dneiper and Volga rivers, and south into Anatolia, central Iran, and the Levant. Mitchell Rothman, in contrast, has suggested that the Kura-Araxes expansion arose out of a series of more quotidian movements and transformations:

The appearance of Transcaucasian ware in Eastern Turkey and, for that matter, in Western Iran represents a series of ripples in a stream of movement of pastoral nomads, traders, and small farmers back and forth

in this larger region. These small segments of the Transcaucasian population, after wandering into Eastern Turkey and Western Iran, mixed with pre-Bronze Age populations to create the great variability observed in artifacts of the Early Transcaucasian Culture over this large area (Rothman 2003: 95).

According to Rothman, the primary factor in the expansion of the Kura-Araxes is, at least initially, access to new markets in eastern Anatolia and, ultimately, at northern Syrian sites such as Tell Brak or Hamoukar. Kavtaradze (2004: 543) advances a more piratical version of this theory, suggesting that the prosperity of Uruk enclaves in Anatolia and northern Syria drew Kura-Araxes communities out of the highlands not as traders but as raiders and conquerors. Unfortunately, the evidence implicating Kura-Araxes communities in the destruction of Uruk enclaves in southern Anatolia and northern Syria is not, at present, compelling.

Rothman's reconstruction admirably emphasizes the importance of accounting for both the dynamic geographic expansion of the Kura-Araxes horizon style and the sources of variability within it. However, currently there is little to support the idea of a market-driven expansion. Some "Transcaucasian"-style metals are indeed found in northern Syria, most notably at Tell Mozan (Kelly-Buccelati 1990). But there is very little evidence of Kura-Araxes materials in the large sites of northern Syria. Only a handful of Kura-Araxes sherds are known from Tell Brak (Oates, Oates, and McDonald 2001: 160; the numbers involved are quite low — nineteen sherds found over almost a decade of excavation [G. Emberling pers. comm. 2006]). No Kura-Araxes materials have been reported from excavations at Hamoukar (M. Gibson pers. comm. 2006). Furthermore, as Kohl (1993: 124) has noted, there is very little to suggest the movement of "materials or peoples" in the other direction, from northern Mesopotamia into the Armenian Highland and the South Caucasus. Indeed, what is most interesting about the relation between northern Syria and the world of the Kura-Araxes to the north is just how little contact there seems to have been across an apparently tightly regulated social boundary (cf. Kavtaradze 2004). Yet the expansion of the Kura-Araxes horizon in itself reveals the dynamism of the highland Early Bronze Age in terms of population movement, shifting world views, and stylistic creativity.

There are considerable disagreements at present regarding the nature of mobility within Kura-Araxes communities. A number of scholars, including Rothman (2003), Kikvidze (1988), and Palumbi (2003) have argued for increasingly mobile ways of life during the Early Bronze Age. Unfortunately, strong evidence of Kura-Araxes nomadism is quite hard to come by and the archaeological record of the Early Bronze Age in southern Caucasia is dominated by sizable, stable villages that appear to have hosted communities invested in both agricultural and pastoral production. Kushnareva (1997) has framed mobility within the Early Bronze Age in terms of both sustained patterns of transhumance within Kura-Araxes villages and the slow migrations of communities during the third millennium B.C. along vertical routes linking flatlands to mountain slopes. In asserting transhumance within Kura-Araxes communities, Kushnareva (1997: 192) cites a disproportionate percentage of sheep/goat bones in higher elevation sites as evidence of a decreased reliance on cattle. This shift toward sheep and goat, she suggests, was driven by the need for herds to travel increasingly long distances to pasture. However, recent studies by Project ArAGATS on the Early Bronze Age levels at Gegharot (2,100 m a.s.l.) found roughly equal proportions of large (12.47%) and medium (18.69%) mammal bones, suggesting that higher elevation sites did not abandon cattle rearing (Monahan forthcoming). Kushnareva's (1997: 188) suggestion that the third millennium witnessed an overall migration of communities from flatlands to mountain slopes also appears to lack support. She cites three factors driving this movement: increasing population, exhaustion of "old soils," and aridization of the countryside. Unfortunately, there is no archaeological evidence to confirm any of these forces, with the possible exception of population increase. Furthermore, new radiocarbon dates from Gegharot indicate that by the beginning of the third millennium B.C. even high elevation sites were already occupied by sizable permanent villages (Badalyan et al. forthcoming). Thus, we still remain largely uncertain as to the degree of mobility within Kura-Araxes communities and as a result lack a well-developed mechanism for positing the forces behind the spread of the Kura-Araxes phenomenon.

To date, we know frustratingly little about the social world of Kura-Araxes village communities. Aspects of local and long-distance exchange have recently come to be better understood thanks to detailed examinations of local obsidian sources and exchange networks (Badalyan 2002; Badalyan, Chataigner, and Kohl 2004; Blackman et al. 1998). Early Bronze Age subsistence economies received some attention during the 1970s, with limited examinations of irrigation facilities and studies of agricultural tools (Kushnareva and Lisitsyna 1979; Khachatryan 1975). In addition, several studies have utilized burial data to sketch the outlines of Kura-Araxes social divisions (e.g., Mindiashvili 1983), suggesting considerable heterogeneity within communities. And yet despite these notable advances, it is as yet unclear what the Kura-Araxes material repertoire, as an archaeological phenomenon,

represents in anthropological or sociological terms. The rapid expansion of the Kura-Araxes horizon during the third millennium B.C. suggests demographically and ideologically vibrant communities possessed of a uniquely expansive world view. However, the stability of the basic Kura-Araxes ceramic repertoire, consistently marked by the ubiquitous black-brown burnished ware, suggests a profoundly conservative sense of materiality. These two accounts of the Early Bronze Age villages of southern Caucasia can only be resolved by closer attention to local communities, their social life, their economic priorities, and cultural values. What remains to be developed in the archaeology of Early Bronze Age southern Caucasia is an integrated account of social life within these village communities and the internal and external forces that drove processes of geographic expansion.

MOBILITY AND MARTIALISM: THE MIDDLE BRONZE AGE

Even as scholars contend with the difficult issues surrounding the timing of the emergence of the Kura-Araxes, new data are raising questions about its end as well. The end of the Early and beginning of the Middle Bronze Age across most of the South Caucasus was marked by the disappearance of the Kura-Araxes archaeological horizon and the large-scale abandonment of settled village communities. Traditional chronologies date the end of the Kura-Araxes to approximately 2100 B.C., but have long been hamstrung by both the lack of absolute dates and the imprecise nature of early Middle Bronze Age ceramic sequences (Sagona 1984). The transformations in social life, economy, and material culture accompanying the end of the Kura-Araxes horizon have generated considerable debate over the extent to which the Middle Bronze Age represents a moment of rupture or continuity within the prehistory of the South Caucasus.

Boris Piotrovskii (1955: 6) argued that the demise of the Kura-Araxes tradition was the result of a radical overspecialization in stock breeding that developed over the course of the third millennium. Early Bronze Age stock breeding, he suggested, underwent intensive development as increases in the size of herds provided greater surpluses than those that could be realized through agricultural production (this appears to be a result of the restricted size of land holdings). However, as herds grew in size, pastoral production adopted increasingly mobile strategies since local resources no longer provided sufficient fodder. The wealth produced by the surpluses in this new form of nomadic pastoralism ultimately led to the abandonment of villages, the ascendancy of a new elite class of rulers, and the disappearance of Kura-Araxes material culture.

Kikvidze (1988) has amended Piotrovskii's reconstruction, suggesting that the progressive expansion of pastoralism led to wide-scale forest clearing intended to open new pastures. This clearing process, he argues, initiated an overall desiccation of local environments that made dry-farming increasingly unreliable, forcing the abandonment of Kura-Araxes villages and guaranteeing the ascendancy of mobile herders. Dolukhanov (1979), Areshian (1991), and Djaparidze (1996) all largely concurred that increasing aridization (and soil salinization) undermined the sustainability of Kura-Araxes farming villages. However, the turn toward climate change as a primary force behind the demise of the Kura-Araxes has not been supported by detailed reconstructions of local microclimates which might provide solid evidence of forest clearing or desiccation. As a result, these accounts remain highly speculative.

Late Early Bronze Age assemblages, such as those from Amiranis Gora III, Ilto, and Tsikhiagora (pl. 7), indicate that distinct material traditions were developing in the lengthening shadow of the Kura-Araxes (Avetisyan 2003). These new traditions were associated with an emerging way of life, centered not in mixed agro-pastoral villages but in markedly transhumant pastoralist communities. This initial, or "Early Kurgans," phase of the Middle Bronze Age (ca. 2300–2100 B.C.) is most clearly defined by the appearance of kurgan-style burials: pit-and-stone cist tombs covered by mounds of earth and/or stone cobbles. In stratigraphic terms, except for the late third millennium B.C. layers from the Bedeni sites in southern Georgia, there is little clear evidence for continuity in the South Caucasus between Early and Middle Bronze Age occupations. However, elements of the ceramic repertoire do suggest connections between Early Kurgans and Kura-Araxes material traditions. What this means in social terms is as yet unclear since what is most striking about the tombs and kurgans of Shengavit (IV), Trialeti (old group), and Martkopi are the indications they provide of significant transformations under way during the third quarter of the third millennium B.C.

The dramatic shift in settlement patterns across Caucasia during the Early to Middle Bronze transition is traditionally interpreted as evidence of the advent of increasingly nomadic social groups predicated upon pastoral subsistence production. Within most current chronologies in the South Caucasus, the transitional Early Kurgans phase of the Middle Bronze Age is followed by the Trialeti or Trialeti-Vanadzor phase (ca. 2100–1700 B.C.). It

is during this period that a range of materials emphasizes the prominence of pastoral production and equestrian mobility within these communities. The Trialeti phase is typically characterized by a suite of archaeological markers defined by assemblages from a series of large kurgans at sites such as Tsnori (Dedabrishvili 1979), Meskheti (Djaparidze, Avalishvili, and Tsereteli 1985), and of course Trialeti itself (Kuftin 1941; Djaparidze, Kikividze, and Avalishvili 1971). As an example of one of the most impressive burials of the era, the largest kurgan at Tsnori was 140 m in diameter and 11 m high. The earthen mound was covered with a “breastplate,” or thin layer of stone cobbles. A burial chamber was found on the eastern segment of the tomb containing a wooden couch supported by wooden posts. Four human skeletons were in the burial, one bearing golden ornaments suggesting the body of the principal deceased. The chamber also contained parts of a wooden wagon, ceramic vessels, gold beads, bone and obsidian arrowheads, and a single bronze dagger.

The appearance of carts and wagons, as well as ox and horse sacrifices, in burials from sites such as Trialeti (group II; Djaparidze 1969; Gogadze 1972), Lori-Berd (Devejian 1981), Aruch (Areshian et al. 1977), and Kirgi (Esaian 1976: 101) attest not only to the technology of mobility during the Middle Bronze Age, but also its centrality to dimensions of belief and value. Similarly, the inclusion of large numbers of bronze spearheads, axes, swords, daggers, and arrowheads (also of obsidian) point to the considerable violence of the era. The iconography of a silver-plated goblet from the kurgan at Karashamb, most notably, indicates quite clearly that this violence was politically ordered, undertaken under the auspices of elite competition, and framed by a piratical political economy predicated on conquest, raiding, and death (Oganessian 1992; Smith 2001). Both the emergence of mobile pastoralism and of a political economy of violence appear to have been closely tied to the emergence of radical inequality between a martial elite and the remainder of the social body. The monumental construction and rich mortuary goods of tombs from Trialeti, Vanadzor, and Lori-Berd, as well as the iconography of elite privilege from Karashamb, testify to significant changes in the social orders of Caucasia and provide the initial indications of emergent sociopolitical inequality in the region.

During the Middle Bronze III phase (ca. 1700–1550 B.C.), the South Caucasus appears to have fragmented into several distinct material culture horizons. If the earlier Trialeti-Vanadzor sites present a relatively homogeneous horizon style for the Middle Bronze II phase, transformations in burial construction and the forms and styles of painted and black ornamented pottery during the succeeding period indicate the differentiation of the region into at least three contemporary, overlapping ceramic horizons: Karmirberd, Karmir-Vank (Kizil Vank), and Sevan-Uzerlik. Both Karmirberd and Karmir-Vank are principally defined by painted pottery styles. Although Trialeti-Vanadzor-phase pottery also includes vessels with painted hanging triangles, web hatching, and zoomorphic figures (most often, birds), these tend to appear on only a small portion of the corpus.

Karmirberd materials largely prevail in the highlands of central southern and northern Caucasia, most iconically represented in the materials from the site of Verin Naver (Simonyan 1979, 1982, 1984, 2006). The diagnostic ceramic repertoire includes a broad range of vessel forms decorated with painted geometric motifs, including checkerboard and web-hatched squares and “bow-tie” or “double poleax” opposed triangles. The Karmir-Vank horizon is best known from the Nakhichevan region of Azerbaijan, including Karmir-Vank and Kültepe I (Abibulaev 1982), and the site of Haftavan Tepe in northwestern Iran (Burney 1975). While Karmirberd materials are known almost entirely from mortuary contexts, Karmir-Vank materials have been recovered from both burials and settlements. The ornamentation of the pottery includes geometric, zoomorphic, and anthropomorphic elements rendered in black, red, and brown polychrome compositions. Hanging triangles, bird figures, and web-hatch motifs do suggest a repertoire of signs similar to that employed in Trialeti-Vanadzor and Karmirberd decoration. However, the compositional distinction of the Karmir-Vank ceramics suggests a move toward representations of narrative or scenes. The Sevan-Uzerlik horizon tends to predominate in the western steppe of Azerbaijan, the Nagorno-Karabakh highlands, and the Sevan and Syunik regions of Armenia. The type site of Uzerlik Tepe hosted long-term systematic explorations during the 1950s and 1960s (Kushnareva 1997: 129–44) and remains today the most thoroughly investigated Sevan-Uzerlik assemblage. In contrast to the painted decorative styles of the Karmirberd and Karmir-Vank horizons, Sevan-Uzerlik ceramics are black polished vessels with incised and punctate decoration. These often include punctate hanging necklace or rounded archway designs that extend from the upper shoulder of the vessel well down the vessel’s body.

It is important to note that the general regional divisions of the three Middle Bronze III ceramic horizon styles cannot be taken as defining a rigid geographic mosaic. Sevan basin sites have also yielded evidence of Karmir-Vank and Karmirberd painted pottery; Ararat Plain sites have included both Karmirberd and Sevan-Uzerlik materials; and Sevan sites contain both Karmirberd and Sevan-Uzerlik ceramics. In Georgia, Trialeti-Vanadzor materials persist

into the Middle Bronze III phase at sites such as Treli, Tsavgli, Natakhtari, and Pevrebi; however, it is also possible to detect hints of Sevan-Uzerlik decorative traditions as well, represented by black pottery with dotted lines.

During the Middle Bronze III phase, the wealth of the burial inventories seen in the preceding phase begins to diminish such that, in the complexes represented by Karmirberd or Karmirberd/Sevan-Uzerlik pottery, relatively few bronze artifacts have been recorded. Furthermore, in the complexes that signify the end of the Middle Bronze Age, the distinctive painted pottery becomes increasingly rare, yielding to the incised gray and black ware ceramics that came to predominate under the Lchashen-Metsamor horizon of the Late Bronze Age. At sites such as Gegharot, the transitional repertoire of materials marking the shift to the Late Bronze Age appears to be most directly tied to the Sevan-Uzerlik horizon. Yet we remain unclear at present as to exactly what the typological distinctions in ceramics that define the end of the Middle Bronze Age represent in terms of time, space, or social difference.

The transformations that altered the social landscape of South Caucasus during the late third and early second millennia B.C. reverberated more broadly across the Armenian Highland. Similar transitions have been documented in eastern Anatolia (Çilingiroğlu 1984; Özfiat 2001) and in northwestern Iran (Hamlin 1974; Robinson 1977, 1991, 2004), reinforcing a sense of the syncopated rhythms of wide-scale social transformations in the region. Even as the Kura-Araxes horizon gave way to a patchwork mosaic of more heterogeneous local material traditions, the pace and particulars of regional prehistory appear to be widely shared across the region.

Discussions of cultural interconnections during the early second millennium B.C. often push the region further into the neighboring worlds of Mesopotamia (Djaparidze 1988) or Anatolia (Robinson 2003). Yet what remains remarkable about the region from the Early to the Middle Bronze Age is how little material appears to leak out of the Kura-Araxes ecumene into adjacent regions. The material connections linking the world of Trialeti, for example, to its neighbors beyond the Armenian highlands are not particularly robust even though they can be quite convincing. For example, Robinson (2003: 141) has recently described the similarity of decorative motifs on Trialeti pottery and those on Anatolian seals as evidence of interaction. While the stylistic parallel truly is quite compelling, the iconographic evidence for interaction cannot in itself forge an account of what interaction might have meant in terms of the participating groups, organizing institutions, pathways across the landscape, or stimuli to exchange. Moreover, shared iconographies can often obscure changes in local meanings and values that shift as motifs and materials move from one context to another. As is the case with the Armenian Highland during the Early Bronze Age, what warrants exploration at present is why these connections appear to have been so weak.

EMERGENT COMPLEXITY: THE LATE BRONZE AGE AND IRON I PERIOD¹⁴

The first clear evidence for sociopolitical complexity in southern Caucasia appears in the Late Bronze Age (pl. 8). The era is marked most conspicuously by the reappearance of numerous permanent settlements in the form of variably sized stone-masonry fortresses built atop hills and outcrops. These fortified settlements are often associated with large cemeteries, such as Treligorebi located on the outskirts of modern Tbilisi, Georgia. The transition between the Middle and Late Bronze Age is also marked by the introduction of new ceramic forms and decorative styles — most notably the disappearance of the painted pottery of the Karmirberd and Karmir-Vank horizons as well as the Sevan-Uzerlik horizon's punctate designs — in favor of suites of black, gray, and buff wares with incised and pressed circumferential decorations (see *Chapter 4*). New approaches to metallurgical production also mark a significant shift in social life between the Middle and Late Bronze Ages. Not only does the scale and intensity of production of bronze artifacts increase dramatically during the Late Bronze Age, both in quantity and in the diversity of forms and types (Avilova and Chernykh 1989: 79–81), the repertoire of artifacts expands as well to include unique forms absent from earlier assemblages, such as battle-axes, mace-heads, shaft-hole daggers, bits, flanged-hilt weapons, and small statuettes. Furthermore, Late Bronze Age metallurgical production utilized open-work as well as lost-wax casting (Gevorkyan 1982).

Both ceramic and metal material repertoires established during the Late Bronze Age endured, in large measure, through the Iron I period as well. The term “Lchashen-Metsamor horizon” has been coined to describe the shared material culture which appears to unite the Late Bronze Age and Iron I period into a single archaeological horizon (Avetisyan et al. 1996). Thus, Iron I is marked archaeologically by the emergence and expansion of iron implements but the remaining elements of the material culture repertoire appear to be continuous with those of the

¹⁴ The Iron I period here replaces the traditional designation “Early Iron Age.” See *Chapter 4* for a defense of this approach to regional periodization.

preceding era. It is important to note that while the end of the Bronze Age throughout much of the Near East and Mediterranean brought with it considerable destruction and tumult, this does not appear to be the case in southern Caucasia where the era is quite clearly marked archaeologically by continuity rather than rupture (cf. Drews 1993; Pitskhelauri 1979; Sandars 1985).

Although the archaeological record of the Late Bronze Age and Iron I period remains remarkably pronounced on southern Caucasia's modern landscape — where cyclopean fortresses from the era appear to dot every hilltop — to date only a relatively small number of sites have hosted intensive archaeological investigations. Among the most informative sites have been the settlements at Metsamor (Khanzadyan, Mkrtchian, and Parsamian 1973), Horom South (Badaljan et al. 1992, 1993, 1994; Badaljan, Kohl, and Kroll 1997), Shirakavan (Torosyan, Khnkikyan, and Petrosyan 2002), and Ketī (Petrosyan 1989) and the mortuary complexes at Artik (Khachatrian 1979), Lchashen (Mnatsakanian 1965), Lori-Berd (Devejyan 1981, 2006), Talin (Avetisyan and Muradyan 1994), Shirakavan (Torosyan, Khnkikyan, and Petrosyan 2002) and Horom (Avetisyan and Badalyan 1996; Mkrtchyan 2001). Recent work at sites such as Udabno (Pitskhelauri 2003), Gegharot, and Tsaghkahovit (this volume; Avetisyan, Badalyan, and Smith 2000; Badalyan, Smith, and Avetisyan 2003; Badalyan et al. forthcoming; Smith et al. 2004) has focused considerable attention on initial formation of complex societies in the South Caucasus.

With the dawn of the Late Bronze Age, the social inequalities visible in the kurgans of the early second millennium appear to have been formalized into a tightly integrated sociopolitical apparatus where critical controls over resources — economic, social, sacred — were concentrated within the cyclopean stone masonry walls of powerful new centers. These political centers projected authority well into the hinterlands. Large-scale irrigation facilities first appear in the region in association with Late Bronze Age fortress complexes, suggesting significant centralized control over the agricultural productivity of the region (Kalantar 1994). In addition, vast cemeteries appear coincident with the emergence of Late Bronze Age polities.

The Late Bronze Age and Iron I period are currently segmented into five basic phases. Middle Bronze IV/Late Bronze I (currently dated to roughly 1550–1450 B.C.) represents the initial transitional phase during which the Middle Bronze III horizons are replaced by mixed assemblages containing both Middle and Late Bronze ceramic styles, such as those documented at Lchashen (Martirosyan 1964), Harich (Khachatrian 1975), Artik (Khachatrian 1979), and in a recently excavated kurgan at Gegharot. It is important to note that the earlier Middle Bronze traditions within these “mixed” assemblages are represented only by the punctate decorations of the Sevan-Uzerlik horizon, never by painted pottery, suggesting that punctate decorative traditions predominated during the terminal Middle Bronze Age. The rapidity of this transition — little more than a century in the current reckoning — is quite noteworthy.

The second phase of the Late Bronze Age (ca. 1450–1250 B.C.) is marked by the disappearance of Middle Bronze Age ornamental traditions and the emergence of a coherent new ceramic assemblage utilizing solely the new repertoire of incised, pressed, and burnished circumferential decorations located almost exclusively on the vessel shoulders. The era was marked by increased violence, at least when viewed from the fortress at Gegharot, which appears to have been destroyed twice during the Late Bronze II phase. Unfortunately, we do not have sufficient archaeological data sets to define what was at stake in these confrontations nor how authorities regularized its deployment. It seems clear that the politics of violence was critical to the maintenance of authority in the South Caucasus since the Middle Bronze Age. The appearance of stable fortresses as loci for fixed institutions of social regulation and governance may well have been predicated upon a routinization of earlier, Middle Bronze Age forms of charismatic martial heroics into centralized instruments of discipline.

The final phase of the Late Bronze Age (Late Bronze III, 1250–1150 B.C.) is distinguished archaeologically primarily in reference to a series of minor formal and decorative additions to the Late Bronze ceramic corpus, including, most emblematically, one-handled wide-lipped cups and jugs and the lace-work handles of Sevan-style daggers (Avetisyan 2003). Most material culture forms and styles developed in the Late Bronze Age continued throughout the Iron I period. Examinations of materials recovered from mortuary contexts suggest that the Iron I period can be divided into two distinct phases: a transitional Iron Ia, dated conventionally to the late twelfth and eleventh centuries B.C., and an Iron Ib phase during the tenth and ninth centuries B.C.

If the pivotal transformation from the Middle to Late Bronze Age sociopolitical communities lies in the increasing formalization of social inequalities that emerged upon the collapse of the Kura-Araxes horizon, then what were the sources of elite power and the structure of governmental institutions? Excavations in the cemetery complexes of the Tsaghkahovit Plain and elsewhere suggest that during the Late Bronze Age, the ostentatious displays of social inequality known from the grand Middle Bronze Age kurgans moderate considerably. This is not to suggest that

social inequality ameliorated. Quite the contrary, the demands placed by rulers quartered in fortified settlements likely intensified the social distance between elites and subjects (Lindsay 2006). Yet the expression of this distance in mortuary contexts took on less demonstrative forms, suggesting that the legitimacy of rule no longer rested as heavily in conspicuous displays of wealth but rather had been regularized into an enduring institutional order.

TO AND FROM EMPIRE: THE IRON II AND III PERIODS

The Iron I period in southern Caucasasia was brought to a close by the campaigns of Argishti I, King of Urartu, during the early eighth century B.C. The campaigns of the Urartian kings succeeded in subduing local polities and confederacies in the Ararat Plain and the Lake Sevan region but do not appear to have penetrated any farther north than the southern limits of the Shirak Plain (and the unique outpost on the north hill at Horom) nor to have incorporated territories east of the Ararat Plain in the mountainous areas of Nakhichevan (Azerbaijan) and Zangezur (Armenia). In much of southern Caucasasia then, the arrival of Argishti may not have marked a major social or political transformation and the archaeology of the region, in large measure, reflects the continuation of a Lchashen-Metsamor material substrate even within the Iron II period citadels of the Urartian regime.

The epigraphic and archaeological study of Urartu flourished in Soviet-era southern Caucasasia even as it languished on the other side of the Iron Curtain (Zimansky 1985). Piotrovskii's (1950, 1952, 1955, 1959) investigations at Karmir-Blur were the first (and remain today the most extensive) systematic excavations of an Urartian site. Thanks to the work at Karmir-Blur, Martirosyan's (1974) excavations at Argishtihinili, Oganessian's (1961, 1980) research at Erebuni, Avetisyan's (2001) work at the small fortress of Aragats, and investigations by Esayan and Kalantaryan (1988) and Kalantaryan and others (et al. 2003) at Oshakan, the Ararat Plain is arguably the most thoroughly investigated region of the Urartian empire (pl. 9).¹⁵ Concurrently, Soviet (and later, Armenian) epigraphers have compiled what remain to date the only encyclopedic compendia of Urartian texts (Arutyunian 2001; Melikishvili 1960, 1971). The study of Urartu, and its interpretive priorities, has thus cast a broad intellectual shadow across regional archaeology.

The archaeology of Urartu within southern Caucasasia has tended to focus on two primary issues: the cultural relationship between Urartu and Assyria and the nature of local communities that were incorporated within the Urartian empire. The interest in ties between Assyria and Urartu is shared by Western archaeology where the delineation of a cultural debt to Mesopotamia has in many respects served as a proxy for a more detailed investigation of Urartian origins. I have recently argued that a tradition of political authority emerged in southern Caucasasia at the dawn of the Late Bronze Age which provided the basic blueprint for early complex polities in the region, including the empire of Urartu (Smith and Thompson 2004). This is not to argue that the Urartian kings did not draw from sources to the south for elements of royal pomp and propaganda. The use of cuneiform for Urartian writing as well as aspects of royal art are the most conspicuous elements adopted from Mesopotamian traditions. But these elements appear to have been relatively superficial to the constitution and exercise of Urartian political authority, disappearing quickly from the region following the demise of the Urartian dynasty. What endures, perhaps even into the succeeding Achaemenid and Hellenistic periods (Khatchadourian 2008c), is a southern Caucasian political tradition — a model for institutional order initially developed during the second half of the second millennium B.C. Nevertheless, the Urartian kings clearly developed a unique implementation of this basic institutional blueprint which allowed them to supersede the small-scale political rivalries that appear to have limited the territorial ambitions of their predecessors.

The second major preoccupation of research into the Urartian era in southern Caucasasia centers on the relation between Urartu and the local populations it ultimately defeated and brought into the empire. This issue has received little attention in the West, where, as Zimansky (1995: 171) has cogently pointed out, there has been a strong tendency to conflate Urartu as: "1) a geographical area, 2) a political unit, 3) an ethno-linguistic entity, and 4) an archaeological assemblage." As a result, there has been little conceptual space for distinguishing local populations from the hegemonic Urartian political apparatus or for defining sociocultural heterogeneity underneath the heavy footprint of the empire. This has not been the case in Armenia, where there has been a sustained archaeological and epigraphic interest in distinguishing Urartian and local communities. In an epigraphic vein, this interest has

¹⁵ Nevertheless, it is important to note the extensive surveys of Urartian sites conducted in northwestern Iran by Wolfram Kleiss and Stephan Kroll (Kleiss and Kroll 1976, 1977, 1978), anchored by the excavations at Bastam (Kleiss 1979, 1988), which provide an

expansive account of that region in the Urartian period. In addition, the ongoing large-scale excavations at Ayanis have shed much needed new light on the Urartian period in the Van region (Çilingiroğlu and Salvini 2001).

tended to focus on Urartian toponyms (Arutyunian 1985; Diakonoff and Kashkai 1981), particularly the geography of major local confederacies, such as Etiuni, which resisted the expansion of empire (Diakonoff 1984). Archaeologically, the interest in defining the fate of local polities and peoples during the era of Urartian domination has focused on identifying the elements of a material repertoire continuous with pre-Urartian traditions in contrast to the repertoire associated with Urartian imperialism.

In archaeological terms, the Urartian imperial apparatus in southern Caucasasia is marked by the same distinctive metal (Merhav 1991), architectural (Kafadaryan 1967, 1984; Kleiss 1975, 1982, 1994; Oganessian 1955, 1961; Smith 1996, 1999), and ceramic assemblages (Emre 1969; Kroll 1976; French and Summers 1994) that followed the march of empire across other parts of the Armenian Highland, including the well-known red-slipped and polished wares known traditionally as Toprakkale or palace wares (Burney and Lang 1972; see Zimansky 1985, 1998 for broader discussions of the archaeology of Urartu). However, the vast majority of ceramics from Urartian-era sites in southern Caucasasia are not traditional palace wares, such as those documented at sites in the Urartian heartland around Lake Van. Instead, we find two major groups of locally produced wares.

First, the majority of red-slipped wares from Urartian-era sites in Armenia are locally produced “Ararat Valley wares” (Avetisyan 1992; Avetisyan and Avetisyan 2006) rather than imports from the Urartian heartland. The scale and prominence of regional production raises the question as to how ceramic manufacturing related to local governance. Were these wares emulations of heartland vessels commissioned by local elites anxious to recreate the material world familiar from the metropole? Or were they simply local equivalents of palace wares generated by a standardized ceramic industry transplanted into a new locale?

Second, the largest corpus of Urartian-period ceramics from southern Caucasasia overall is neither comprised by valley wares nor palace wares, but rather gray, buff, and black wares continuous with Iron I materials. At the site of Horom, on Urartu’s northern border, red-slipped wares accounted for only 1 percent of the Urartian-era assemblage relative to buff and gray/black wares continuous with local Lchashen-Metsamor traditions. Nevertheless, the comparatively small assemblage of red wares included all the basic forms of the traditional Urartian assemblage (Kohl and Kroll 1999: 253). It is quite tempting to interpret the distinctive suites of gray and red ceramics as indicative of social boundaries between occupying “Urartian” elites and “indigenous” subjugated populations, and this may indeed be correct. However, far more attention needs to be given to the social significance of variation in the Urartian material assemblage in southern Caucasasia and in other parts of the empire. Further study of the materials from Horom (Badaljan et al. 1992, 1993, 1994; Badaljan, Kohl, and Kroll 1997), Aragats (Avetisyan 1996), and the Sevan basin (Biscione, Hmayakyan, and Parmegiani 2002) as well as new excavations at Aramus (Avetisyan 1997), in the Hrazdan River valley, may shed much needed light on the constitution of social boundaries within the Urartian world.

The end of the Urartian era in southern Caucasasia is known almost solely through the charred remains of Karmir-Blur and the appearance of trilobed points in its mudbrick walls, a discovery which led Piotrovskii (1959) to implicate Scythian armies in Urartu’s final demise. I have elsewhere suggested that Urartu’s collapse was so complete that within two centuries not only had the southern Caucasian political tradition been replaced by other models of governance, but also even the memory of Urartu had virtually disappeared (Smith 2003: 254; Smith and Thompson 2004). However, recent work on the post-Urartian period (Khatchadourian 2008c) suggests that the impact of Urartu and the southern Caucasian political tradition may well have endured for centuries after its collapse.

Investigations of the South Caucasus during the post-Urartian Iron III period (pl. 10) have been conducted at a number of key sites, including Armavir-Argishtihinili and Erebuni in the Ararat Plain, Horom and Benjamin in the Shirak Plain, Karchaghpyur in the Sevan basin, and Gumbati in Georgia (Karapetyan 2003; Knauss 2005). These sites together provide an orientation to the architecture and archaeological materials of an era during which the rapid decline of Urartu was followed by the emergence of a far more fragmented political map. By the late sixth century B.C., the region appears to have been incorporated as satrapies of the Achaemenid empire.

The collapse of Urartu not only marks a significant historical rupture, but also a subdisciplinary division that largely distinguishes Urartu and earlier times from those that followed. As a result, the archaeology of the Iron III period — its current problems and future challenges — is in large measure beyond the scope of this chapter. While the investigations of Project ArAGATS have contributed greatly to our understanding of this period, a full account is available in several recent and forthcoming publications by Khatchadourian (2008b and forthcoming) and need not be reiterated here. We therefore move in the next chapter to a fuller account of the region’s basic time-space systematics for the Early Bronze Age through the collapse of Urartu.

CHAPTER 4

PERIODIZATION AND CHRONOLOGY OF SOUTHERN CAUCASIA: FROM THE EARLY BRONZE AGE THROUGH THE IRON III PERIOD

RUBEN S. BADALYAN, PAVEL AVETISYAN, AND ADAM T. SMITH

Close analyses of temporal transformation and regional variability in artifact morphology and decoration have a long and significant history in southern Caucasia. However, there are, as yet, no detailed typologies that allow us to trace fine alterations in particular material classes for any archaeological period (*pace* Avetisyan 2003). Ceramic assemblages are sufficiently known for most periods to allow for classification to a general horizon style (e.g., the Kura-Araxes horizon of the Early Bronze Age) and, for some periods, to more restricted temporal phases (e.g., Lchashen-Metsamor I; see fig. 2). However, archaeological research in southern Caucasia has not produced a true ceramic typology that charts variability in wares or changes in repertoires over time. This lacuna is surprising since long-term excavations at stratified sites such as Metsamor, Armavir, Garni, Artashat, and Dvin could — and should — have produced such typologies. However, as noted in *Chapter 1*, the most glaring weakness of these “great site” excavations was their privileging of the artistic treasure over the far larger corpus of “typical” artifacts. As a result, the material chronologies in use today are largely based on informal conventions that have rarely been set down for collective scrutiny. Our goal in this chapter is to provide an account of these conventions in order to provide a baseline for future efforts as well as a brief primer on the formal and decorative attributes used by Project ArAGATS to sort surface collections and excavated materials.

Modern efforts to establish a framework for archaeological periodization in southern Caucasia rest upon two primary foundations. First, the later historical periods have traditionally been ordered by dynastic histories rather than by archaeological materials. Following the incursions of Urartian armies across the Araxes, alterations in material culture are largely abandoned as the bases for periodization. Instead, as in neighboring regions such as Mesopotamia and Anatolia, chronologies are lashed to known fluctuations in geopolitical currents. In some cases, major historical moments — such as the Urartian invasion — do indeed entail significant shifts in material culture assemblages. In other cases, grand geopolitical events — such as the defeat of the Achaemenid empire by Alexander the Great — leave few traces in the morphology or ornamental repertoires of major material culture classes.

By tying archaeological chronologies to political history, textual and artifactual data are inextricably linked into a single problematic. In one sense this can be a salutary analytical position as it allows for the development of a truly historical archaeology founded upon the close articulation of various sources. However, it can also impede inquiry by narrowing archaeology to simple exegesis of textual references. As a result, archaeological problems ranging from ceramic typologies to political economies to ritual practices are neglected. It is fair to say that the historical divisions used to define southern Caucasia’s temporal phases from the eighth century B.C. to the medieval era are not sensitive indices of archaeological chronology. As a result, we forward here an explicitly archaeological nomenclature alongside the historical chronology which extends the Iron Age through the first millennium B.C. To be clear, we do not advocate an abandonment of the historical record — political chronologies do critical work and indeed, at present, provide the basic skeleton for archaeological periodization. Future archaeological research will undoubtedly discern the distinct pacing and rhythm of material culture transformations, lending that realm much-needed autonomy from the textual sources.

The second foundation of regional chronology and periodization is the three-age system. Since the late nineteenth century, the region’s prehistory has been organized around the traditional three ages of Stone, Bronze, and Iron adopted by early investigators such as Gorodtsov, Bayern, and Morgan from Danish archaeology (see Kohl 2003). The advantages and limitations of the three-age system have been noted in numerous parts of the Old World and do not bear repeating here. While we retain the basic outlines of the Stone/Bronze/Iron triad here (largely because it is so deeply ingrained in regional scholarship), we place considerably more emphasis in our material chronologies on inter-digitated material culture horizons. These horizons are not locked into a rigid order

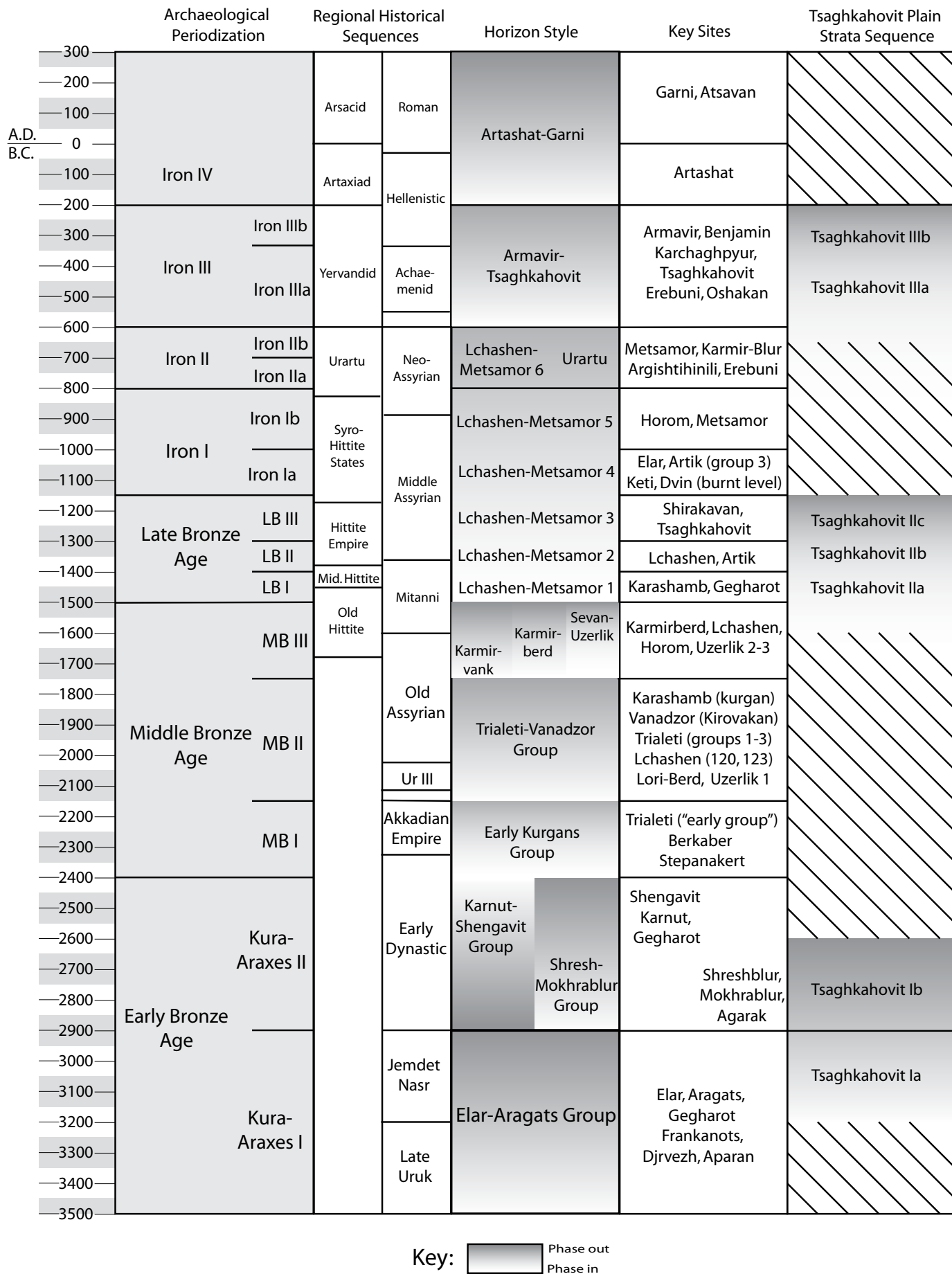


Figure 2. Archaeological Periodization and Chronology of Southern Caucasasia

of evolutionary succession, but rather tend to overlap with one another both temporally and geographically. The result is a far more complex material sequence than that given by traditional three-age models. This approach does more justice to the data, which have long resisted orderly models of development, and raises serious historical and anthropological questions regarding the shifting cultural practices that generated the emergence, expansion, and eclipse of shared traditions of material technology and aesthetics.

The three-age system was elaborated in the South Caucasus during the 1940s by B. A. Kuftin. Kuftin (1941) partitioned the Bronze Age into three parts — Early, Middle, and Late — establishing a tripartite substructure for developmental phases in material assemblages. But Kuftin's initial proposal was quite limited in its ambitions. Rather than establishing a broad regional sequence on his tripartite scheme, Kuftin used these Bronze Age subdivisions only to organize the relative chronological sequences of the materials from Trialeti. Kuftin did not propose a clear set of formal criteria diagnostic of each era (Areshian et al. 1990). Ideally, of course, such criteria should have been founded upon technical, technological, and stylistic characteristics in advance of any effort to define material phases. The subdivision of a discrete material culture horizon into developmental phases typically demands either very close attention to shifting artifact morphologies (particularly ceramics) or alternatively, a broad outline of general historical transformations in social life, economic production, or political structure (à la V. Gordon Childe's revolutionary stages). However, the foundations for archaeological periodization in southern Caucasia were primarily driven by a need to organize materials, groups, and sites into a temporal sequence. Only rarely have these transformations been clearly tied to a broader set of social transformations.

The first effort to define a complete periodization and chronology for the Bronze and Iron Ages of Armenia was published by Martirosyan (1964). Martirosyan's sweeping evolutionary schema considered the entire extant archaeological inventory (the majority of which consisted of accidental finds and isolated investigations of mortuary complexes), defining each stage in relation to a close analysis of artifact morphology and design. While similar efforts continued in Armenia after Martirosyan, these investigations tended to be more geographically and temporally restricted studies that did not share his encompassing ambition. During the thirty years that followed the publication of Martirosyan's system, the corpus of well-provenanced archaeological materials increased dramatically. While this new information largely supported his system of successive archaeological horizons, it nevertheless became increasingly clear that there were serious problems with both his relative periodization and absolute chronology. A new version of the periodization of Armenia's Bronze and Iron Ages was therefore forwarded in 1996 (Avetisyan et al. 1996) which attempted to revise Martirosyan's schema and accommodate new radiocarbon determinations.

There has been considerable progress in the definition of material culture horizons in the South Caucasus during the last two decades as the proliferation of radiocarbon dates and closer definition of heterogeneity and homogeneity in "styles," "types," "groups," "cultures," and "horizons" has promoted a sustained conversation about diagnostic characteristics and the proper nomenclature for archaeological classification. However, most of the terms and categories represent, with rare exceptions, an informal scholarly consensus rather than a formal system of classification.

For the prehistoric periods in the South Caucasus — particularly the Bronze and Early Iron Ages (Iron I) — a succession of archaeological horizons represented by assemblages from groups of sites has been established. These horizons — Kura-Araxes, Early Kurgans, Trialeti-Vanadzor, Sevan-Uzerlik (a.k.a. Sevan-Artsakh), Karmirberd, Karmir-Vank, and Lchashen-Metsamor — are linked to each other temporally and geographically as they mark the shifting archaeological terrain of the region. Yet considerable problems remain today in defining their relationships to one another, the absolute chronologies of each, and the proper nomenclature that should order archaeological periodization as a whole.

TRADITIONS OF PERIODIZATION: THE EARLY BRONZE AGE

The dominant archaeological horizon of the late fourth and third millennia B.C. is the Kura-Araxes (pl. 6). Within the Soviet archaeological literature, Kura-Araxes materials had been traditionally classified to the Eneolithic (Chalcolithic) period based on Kuftin's (1940) chronology, but by the 1960s these assemblages were reorganized under the auspices of the Early Bronze Age.¹⁶ Early efforts to provide absolute dates for the Kura-Araxes horizon

¹⁶ The principal arguments for re-assigning the Kura-Araxes to the Early Bronze Age arose from the following observations. First, the site of Nakhichevan Kültepe was found to include significant (8.5–9.0 m) pre-Kura-Araxian levels that were considered to be more

properly attributable to the Eneolithic. Second, there was a strong desire to bring south Caucasian nomenclature into conformity with the traditions of Anatolia and Iran where Kura-Araxes materials from sites such as Geoy Tepe (Burton-Brown 1951; cf. Burney 1958) had already

centered around two primary traditions that argued for two distinct chronologies, most famously advanced by Piotrovskii and Munchaev.

Piotrovskii (1949: 183) assigned the Kura-Araxes to the Eneolithic, which he dated to the end of the third and first half of the second millennia B.C. The likely basis for Piotrovskii's assertion was an earlier suggestion by Iessen that the first period in the development of ancient metallurgy in the Caucasus dated to the late third/early second millennia B.C. Baiburtyan's (1937: 213) assessment that the Elar and Shreshblur Kura-Araxes assemblages dated to the twentieth–eighteenth centuries B.C., while the Shengavit materials were somewhat older, suggested to Piotrovskii that the era of the Kura-Araxes (and the contemporary Maikop phenomenon) was synchronous with the dawn of ancient metallurgy at the end of the third or beginning of the second millennium B.C.

The first attempts to articulate a typology of Kura-Araxes ceramic complexes also helped establish conventions for defining relative developmental phases. Kuftin (1941: 115–17) identified among the levels at Beshtashen ceramic materials of the “Eneolithic” with “at least three basic phases.” One ceramic complex (from a level in the ditch surrounding the fortress), included wares bearing relief ornaments of isolated geometric figures that were similar to ceramics from Elar, Didube, and Kiketi. The second complex (from the lower level of the fortress courtyard) was characterized by ornaments of sinuous lines in slight relief similar to ceramics from Shengavit, Shreshblur, and Tagavoranist. Lastly, the third complex (from the upper layer of the courtyard) included black-burnished ceramics with finely incised decoration. Unfortunately, Kuftin never defined the chronological relationships among these complexes.

In attempting to define the chronological relationships between complexes, Piotrovskii (1949) observed significant differences in the ornamentation of Kura-Araxes ceramics in collections from Shreshblur and Mokhrablur, Shengavit, and Elar.¹⁷ On the basis of Piotrovskii's observations, Munchaev argued that,

these sites undoubtedly characterize three different phases in the development of the culture of the Kura-Araxes Eneolithic. The settlements of the Etchmiadzin area (i.e. Shresh-Blur, Mokhrablur) represent a relatively earlier phase than the settlement at Elar, which was relatively later. The settlement at Shengavit, in all likelihood, occupied a chronological position between the two (Munchaev 1961: 159).

It was Munchaev who led the attack upon Piotrovskii's proposal for the absolute dating of the Kura-Araxes. With support from Krupnov (1950), Munchaev (1955, 1961) suggested that the dating of the “sites of the southern Caucasian Eneolithic to the end of the 3rd and first half of the 2nd millennium B.C. ... cannot withstand critique Obviously, it is set too low and is in glaring contradiction with identical materials with dates from contemporary sites in Near Asia [the Near East] and southeastern Europe” (Munchaev 1955: 14–15).

Instead, based on suggested similarities between the archaeological cultures of the South Caucasus and the Near East, Munchaev (1955: 15; cf. Koridze 1955: 9) argued that the Kura-Araxes extended from the end of the fourth millennium B.C. through the entire third millennium B.C. (although it was clearly stipulated that no known sites could be dated to the late fourth millennium B.C. [Munchaev 1955: 14–15]). This argument provided the foundation for a second, alternative chronology. Following Munchaev, O. M. Djaparidze (1962) dated the “Eneolithic” Kura-

been assigned to the Early Bronze Age (Iessen 1963; Kushnareva and Chubinishvili 1963; Abibullaev 1963). Third, spectral analyses of metals associated with Kura-Araxes levels revealed that the majority consisted of copper-arsenic alloys (arsenical bronzes). But it is important to note that the concrete criteria for dividing the Eneolithic and Early Bronze Age based on metallurgical technology are proving to be somewhat vulnerable. On the one hand, metal objects from Tekhut belonging to the pre-Kura-Araxes period appear to be arsenic-copper alloys as well. Consequently, Tekhut should theoretically be counted among sites of the Early Bronze Age (“if metallurgical characteristics provide the accepted convention for European cultures then the ancient metallurgical settlements of Caucasian Kültepe and Tekhut cannot be assigned to the copper or Eneolithic age” [Gadzhiev 1991: 31]). On the other hand, several authors (Tavadze, Sakvarelidze, and Inanishvili 1987; Abesadze and Bakhtadze 1987) have suggested that the arsenical content in the metallurgical production of the Kura-Araxes era occurs naturally within the copper ores utilized at the time and thus does not represent a conscious additive within the production process, suggesting that the Kura-Araxes horizon should be assigned to the Eneolithic; however, according to Gevorkyan (1991: 12–13) the naturally occurring quantity of arsenic in ore is only in the hundredths

of a percent, while this ratio rises considerably in finished ingots and objects. Although primarily a semantic question — an uncomfortable legacy of the limitations of the traditional three-age system — as both Masson (1982: 5) and Chernykh (1965: 106–10) note, it would be useful to have a more nuanced set of terms and more solid criteria for periodization.

¹⁷ “Although there is an extremely close resemblance between the materials of Shreshblur and Shengavit, variability in ceramic decoration remains despite similarity in the manufacturing and form of the vessels. At Shreshblur incised ornamentation is very rare, replaced by embossed and pressed decorations The ceramics of Kültepe [Mokhrablur] are similar in their ornamentation to those of Shreshblur and distinct from Shengavit pottery. Characteristically, ornamentation appears only on the front of the vessel: the patterns occupy only part of the vessel surface on one side. Typically, pressed decoration is rarer than embossed designs and only on a few specimens of the Shengavit type are incised ornament well-known Ceramics from the settlement at Elar are very similar to those of Shengavit and Shreshblur, except that ornamentation almost completely disappears. There are only a few of examples with simple pressed or embossed decoration” (Piotrovskii 1949: 34–36).

Araxes to the period from the late fourth millennium B.C. to 2400 B.C. The first phase of the Kura-Araxes (from the end of the fourth millennium to 2800 B.C.), he argued, included the Didube and Kiketi materials. However, the form and decoration of these ceramics are already quite developed, suggesting that “these data groups must be preceded by still earlier steps in the chronological frameworks which will date to the mid- to late 4th millennium B.C.” (Djaparidze 1962: 257).

More objective evidence for dating the lower chronological limits of the Kura-Araxes horizon to the end of the fourth millennium B.C. emerged only after a few Kura-Araxes sites in southern Caucasia provided samples for radiocarbon dating. Radiocarbon samples recovered from the lower levels of Nakhichevan Kültepe I and Kvatskhelebi were dated to the early third millennium B.C. (uncalibrated). But the dated remains rested atop still earlier Kura-Araxes deposits, indicating that these levels had not been established at the beginning of the Kura-Araxes era.¹⁸ This was the first time that strong evidence supported pushing the earliest phases of the Kura-Araxes into the fourth millennium B.C. (Iessen 1963: 4; Djavakhishvili 1973: 257).¹⁹

Nevertheless, the tendency to underestimate the antiquity of the Kura-Araxes in Armenian archaeology survived for several decades. Martirosyan defined its chronological extent from 2500 to 2000 B.C. In his chronology (Martirosyan 1964: table 33), the Early Bronze Age in Armenia was divisible into two main phases, each of which was characterized by two chronologically successive ceramic complexes: Phase I (2500–2300 B.C.) included the Shengavit and Garni complexes and phase II (2300–2000 B.C.) included the Elar and Aragats complexes. Sardaryan (1967), on the basis of the materials from Shengavit, subdivided the Kura-Araxes sites of Armenia into three periods: early (3000–2600 B.C., Shengavit II), middle (2600–2400 B.C., Shengavit III), and late (2400–2000 B.C., Shengavit IV).

For Khanzadyan (1967), the Early Bronze Age was subdivided into three developmental periods, with each phase represented by a few local ceramic assemblages. The first period was characterized by the Shreshblur and Karnut-Kirovakan assemblages. The second period was characterized by Kirovakan and Shengavit materials. And the third period was characterized by the Elar, Shengavit, and Aragats assemblages. The first and second periods were dated to the first half of the third millennium B.C., while the third was attributed to the second half of the third millennium B.C.

Kushnareva and Chubinshvili (1970) subdivided the Early Bronze Age (which for them was synonymous with the Kura-Araxes culture) into three chronological phases: the period of Early Bronze I was dated 3000–2700/2600 B.C. (and included materials from sites in Armenia such as Shengavit [level II], Shreshblur, and Mokhrablur); the Early Bronze II dated to 2700/2600–2400/2300 B.C. (incorporating, among others, the materials of Shengavit [level III], Garni, and the burials at Elar); the Early Bronze III period was dated 2400/2300–2000 B.C. (and comprised materials of sites such as Shengavit [level IV], Tagavoranist, Kosi-Choter, and Aragats).

During the early 1980s, Areshian (1990: 54; 1982a: 256; 1982b: 13) argued against the limitations on the historical development of the Kura-Araxes imposed by all the previous chronologies. Instead, he suggested that the beginning of the Kura-Araxes horizon should be extended back into the second half of the fourth millennium (ca. 3600/3300 B.C.). At the same time, he fixed the end of the Kura-Araxes in the late third millennium (ca. 2400/2200 B.C.). Areshian’s effort to overturn the traditional periodization of the Kura-Araxes embraced Munchaev’s approach and initiated a broader revision of long-held chronologies in Armenian archaeology which continues today.²⁰

Kushnareva (1993) later formalized this new chronology for the Early Bronze Age, suggesting a four-part periodization. Early Bronze I (3500–3200 B.C.) was defined by materials from parts of the Tekhut and Elar assem-

¹⁸ From Kültepe these earlier deposits were 4 m thick with twelve levels, while at Kvatskhelebi two additional levels lay under the dated remains.

¹⁹ G. I. Mirtskhulava (1975: 80) also suggested, based on the relationship between the available radiocarbon dates and the extant stratigraphic evidence, that the beginning of the Kura-Araxes predated sites of the Didube-Kiketi type and thus should be assigned to the end of the fourth millennium B.C. Later, when these dates were calibrated by Kavtaradze (1983: 60) using the curve of R. M. Clark, they were reassigned to the first half of the fourth millennium B.C. As a result, Kavtaradze defined the beginning of the Kura-Araxes horizon as the end of the fifth millennium B.C.

²⁰ Nevertheless, a subsequent proposal of Khanzadyan (1985) outlined a new version of the periodization and chronology of Kura-Araxes sites of Armenia that once again limited them to the third millennium

B.C. Early Bronze I was dated to 3000–2700/2600 B.C. on the basis of the lower levels of Jrahovit, Arevik, Mokhrablur, Voskeblur, Metsamor, Norabats, levels on the northeastern slope and south side of the fortress of Elar, and the unpaved chambers (nos. 1, 9, 14, 16, 17, 24, 37) of the lower layers of Elar necropolis. Early Bronze II was dated to 2600–2400/2300 B.C. on the basis of the middle levels at Jrahovit, Metsamor, Voskeblur, two levels from sounding P-3, stone chambers (nos. 3, 19, 36), and the unpaved chamber 8 of Elar, Shengavit II, lower levels of Lchapi-Blur, Shreshblur, the upper levels at Mokhrablur, Sev-Blur, Frankanots, Dvin, Aigevan, Kosi-Choter, Tagavoranist, Mashtotsi-Blur, Karnut, and Harich. Early Bronze III dated to 2300–2100/2000 B.C. encompassed materials from the upper levels (I and II) at Jrahovit, Garni, Lchapi-Blur, Aigevan, Shengavit IV, trench P-3 at Elar, and the second level from the bottom at Metsamor.

blages, the lower levels at Mokhrablur, Jrahovit (levels V–III), and Aragats.²¹ The second phase of the Early Bronze Age (3200–2900 B.C.) included assemblages from Shengavit (level II), Shreshblur, portions of Mokhrablur, and the Maisyan kurgans. The Early Bronze III phase (2900–2600 B.C.) was defined by assemblages from Shengavit (level III), portions of Mokhrablur, the Maisyan kurgans, Garni, and Elar cemetery. Early Bronze IV (2600–2300 B.C.) was defined by Shengavit (level IV), Tagavoranist, Kosi-Choter, Jaghatsatekh, Harich, Horom, Ketii, and the cemetery at Aragats.

In general, the majority of these efforts to define the periodization of the Kura-Araxes horizon were based on formal-typological studies of ceramics.²² Having defined the character of several distinctive groups (“Elar style,” “Aragats style,” etc.), they were set in relative chronological order based on different (and frequently opposing) ideas about evolutionary tendencies. As Munchaev (1961: 84) noted regarding the undecorated Elar group of Kura-Araxes ceramics,

Either these [Elar group] sites relate to a comparatively early period (an early phase of the [Kura-Araxes]) or to the contrary, they represent a late phase in the development of the [Kura-Araxes] cultures. With respect to Elar and Garni, it is likely that these are comparatively later sites. The absence of ornament on these ceramics indicates them to be one manifestation of a tendency toward the further development of local ceramics, revealed in the disappearance of ornamentation.

It is also worth noting a tendency in the analysis of several major sites to stretch relatively homogeneous assemblages (e.g., Shengavit) across the entire extent of the Kura-Araxes period. For example, Kushnareva and Chubishvili (1963: 16) noted the general absence of material distinctions between the various levels at Shengavit but they nevertheless distributed the materials from the settlement across the entire span of the Kura-Araxes period, distending the site’s occupation history.²³ As a result, an illusion of continuity has been created for the Early Bronze Age that is disrupted only by the major shifts in settlement and material culture that emerged during the transition to the Middle Bronze Age.

TRADITIONS OF PERIODIZATION: THE MIDDLE BRONZE AGE

Investigation into the Middle Bronze Age of southern Caucasasia effectively began with the first efforts to define the chronology of prehistoric painted pottery assemblages (pl. 7). Vessels with painted zoomorphic and geometric design motifs were first reported from excavations conducted in the 1890s; however, formal analysis of ceramic assemblages only commenced in the first decades of the twentieth century. In 1895 Zakharyants delivered a collection of painted pottery from the Karmirberd tombs (Tazakend, Kizil Kala, Ghay Kharaba) to the IAK (see *Chapter 2*). The discovery of these unusual vessels sparked continued excavations in the area.²⁴ After the publications of Zakharyants’s pottery collections, as well as those of Fyodorov from Karmir-Vank in Nakhichevan, the first effort to define their chronology was undertaken by Przeworski in the early 1930s (Spitsyn 1909: 1–5; Przeworski 1933: 23–64).

The period from the 1940s to 1970s saw not only a significant increase in Middle Bronze Age materials generated by the increasing pace of fieldwork at major Middle Bronze Age sites (such as Trialeti, Vanadzor [Kirovakan], Zurtaketi, Etchmiadzin, Uzerlik Tepe, and Lchashen), but also a considered effort to define more precisely the material parameters of Middle Bronze Age socioeconomic transformations (Kuftin 1941: 78–105; Piotrovskii 1949: 43–51; Kushnareva 1960; Martirosyan 1964: 47–77; Khanzadyan 1969: 83–123; Djaparidze 1969; Gogadze 1972; Khachatrian 1975: 89–124). This work established five basic Middle Bronze Age archaeological complexes in the South Caucasus which are today named: Karmirberd, Sevan-Uzerlik (a.k.a. Sevan-Artsakh), Karmir-Vank, Trialeti-Vanadzor (formerly, Trialeti-Kirovakan), and Bedeni-Martkopi.

²¹ The site name Aragats here most likely refers to the tomb excavated by Marr in 1893 on the northwest slope of Mount Aragats which contained a vessel decorated on one side with a single double spiral in raised relief. This should not be confused with the complex from the village of Aragats in the Ararat Valley.

²² It is necessary to note that the periodizations discussed above represent primarily those that bear directly upon sites within the territory of modern Armenia. There are numerous other schemas for Kura-Araxian sites of different geographical areas, including Daghestan, Azerbaijan, etc. For a recent, geographically proximate discussion of related materials, see Ordzhonikidze 2000.

²³ Djavakhishvili (1973: 169) agreed that there were no substantial differences in material culture between the construction levels at Shengavit, suggesting instead that this was a result of the comparatively brief life of this settlement during the later phase of the Kura-Araxes period.

²⁴ In 1896, the Karmirberd excavations were headed by P. Charkowski, in 1903 by M. Zakharyants, and in 1904 by E. Resler (Kuftin 1941: 6–9; Piotrovskii 1949: 43–51; Martirosyan 1964: 20, 48–51).

Since the 1960s, the periodization and chronology of these groups has been primarily organized around the system proposed by Martirosyan (1964). Martirosyan's dating of the earliest Middle Bronze Age materials was highly conditioned by his assumption that the Kura-Araxes horizon occupied the entirety of the third millennium B.C. As a result, the Middle Bronze I phase, which included the Karmirberd and Karmir-Vank complexes, was dated to the twentieth–eighteenth centuries B.C. Martirosyan assigned the Sevan-Uzerlik complexes to the Middle Bronze II phase, dated to the eighteenth–seventeenth centuries B.C. In aesthetic terms, the Trialeti-Vanadzor ceramics are the most highly elaborated and so Martirosyan assigned them to the final, third phase of the Middle Bronze Age, which he dated to the sixteenth–fifteenth centuries B.C. (Martirosyan 1964: 47–73, 297–98).

Some scholars objected to Martirosyan's rigid order of archaeological succession, arguing for a “long” chronology for the Karmirberd and Trialeti complexes which would extend them through the entire range of the Middle Bronze Age (i.e., twentieth–fifteenth centuries B.C.) (Gogadze 1972; Kushnareva 1959: 419–20; Kushnareva 1965: 98–99; Esaian 1969: 25–29). The most severe disruption to Martirosyan's chronology came in the 1980s when, as mentioned above, the end of the Kura-Araxes horizon was pushed back from the twenty-first to the twenty-fourth century B.C. (Munchaev 1994: 16–18; Areshian 1982b: 13–16; Pitskhelauri 1987; Badalyan 1996: 12–14).

Following this development, the Bedeni, Martkopi, and Trialeti (old group) kurgans, known from Georgia, which had been assigned to the final stage of the Early Bronze Age, were re-classified as markers of the first stage of the Middle Bronze Age. Stratigraphic data and artifact typologies strongly indicate that these complexes, sometimes bundled under the term “Early Kurgans Culture,” occupy a transitional position between the final stage of the Kura-Araxes and the Trialeti (flourishing phase) complexes (Pitskhelauri 1987; Djaparidze 1994). In Armenia, such corrections to the Georgian sequence necessitated new solutions. Since robust Martkopi-Bedeni assemblages are not known in southern Caucasia, the revised chronology would in effect leave the period between the twenty-fourth and twentieth centuries B.C. empty, an archaeological *terra incognita*. Esaian proposed one solution which moved the beginning of the Karmirberd horizon to the twenty-fourth century B.C. on the basis of stratigraphic relations between Karmirberd and Kura-Araxes layers at sites such as Aigevan (Esaian 1981: 202–03). According to this chronology, Karmirberd painted pottery first appeared at a number of sites in the South Caucasus (Beshtashen, Jrahovit, Kültepe II, and Aigevan) at the end of the Early Bronze Age and continued until the eighteenth century B.C.

In 1990, a group of authors headed by Areshian argued for a more encompassing solution to the problem of Middle Bronze Age periodization, stressing the need for a deeper analysis of the situation (Areshian et al. 1990: 57–58, 73–74). Their analysis produced a new outline for the Middle Bronze Age, the details of which form the basis of the periodization and chronology discussed below (Oganessian 1990; Avetisyan et al. 1996; Avetisyan 2003).

TRADITIONS OF PERIODIZATION: THE LATE BRONZE AGE AND IRON I PERIOD (EARLY IRON AGE)

As discussed in *Chapter 2*, many of the earliest archaeological investigations in the South Caucasus uncovered burials now assigned to what has traditionally been termed the Late Bronze and Early Iron Ages (e.g., Chantre 1885: 188–211). Resler's discovery of a seal bearing the name of the Assyrian king Adad-Nirari at Khojali (burial 11) tied the complexes of the Early Iron Age to the late second and early first millennia B.C. In addition, explorations of Urartian monuments in Armenia during the early twentieth century helped provide a *terminus ad quem* for so-called “pre-Urartian” remains. However, the enduring consistency of material culture forms and decorative styles throughout the late second and early first millennia B.C. presented a formidable challenge to efforts to refine the chronology of the era. Despite initial work by Kuftin (1941: 20–77), it was not until Martirosyan (1964) detailed his outline for the prehistory of Armenia that the Late Bronze and Early Iron Ages of the South Caucasus were parsed into archaeologically discrete phases.

According to Martirosyan (1964), the millennium from roughly 1500 to 500 B.C. could be divided into two stages: “the Late Bronze stage” (fourteenth–tenth centuries B.C.) and “the ancient Near Eastern stage of Armenian cultural development” (ninth–sixth centuries B.C.). Martirosyan noted several mortuary complexes that appeared to mark the transition between the Middle and Late Bronze Ages, such as burials from Noratus and Lchashen, which contained pottery with punctate decorations encrusted with red and white paint. He dated this transitional phase to the late fifteenth to fourteenth centuries B.C. Martirosyan subdivided his Late Bronze stage into three main phases, each represented by a distinctive repertoire defined in reference to a major site. The Late Bronze I phase was defined in reference to the materials from Lchashen and dated from the end of fourteenth through the

twelfth centuries B.C. The Late Bronze II phase was defined in reference to “burials of the period of the first appearance of iron” (such as the tombs at Vornak) and dated to the end of the twelfth through the eleventh centuries B.C.; the Late Bronze III phase, confusingly termed the “period of Early Iron monuments” was represented by the Taqia burials and dated to the end of the eleventh through the tenth centuries B.C. The subsequent “Ancient Near Eastern stage of Armenian cultural development” was divided into three phases: the initial phase in the wide adoption of iron (dated to the ninth–eighth centuries B.C.), the Urartian phase (dated by historical sources to the eighth–seventh centuries B.C.), and the phase of the “wide adoption of iron” (dated to the seventh–sixth centuries B.C.; Martirosyan 1964: 81–293, 299–305).

During the 1970s, new data from sites in the South Caucasus, such as Artik (Areshian 1970; Khachatryan 1975: 127–232), Treli (Abramishvili 1978: 18), and others (Pitskhelauri 1979: 100–01; Esaian 1990; Areshian et al. 1990: 58) began to push the beginning of the Late Bronze Age back into the late fifteenth century B.C. Recent re-examinations of the Late Bronze and Early Iron Ages (e.g., Pitskhelauri 1990: 248; Oganessian 1990: 25–30) have re-framed the phases offered by Martirosyan such that the Late Bronze I encompasses the complexes formerly related to the transitional period, and Late Bronze II includes the assemblages with parallels to those from Lchashen.

At present, Martirosyan’s “Late Bronze and Early Iron Ages” in Armenia are subsumed under the auspices of the Lchashen-Metsamor archaeological horizon which developed as the material traditions of Middle Bronze Age pastoral communities yielded to those associated with the fortress-based territorial polities that rapidly emerged in the mid-second millennium B.C. While the materials of the Lchashen-Metsamor horizon were overshadowed in the early eighth century B.C. by the distinctive material culture that accompanied the Urartian invasion, it was not extinguished. Clearly related ceramic traditions continued to be produced, constituting what is today referred to as a “local” material tradition that underlay Urartian imperial productions. Indeed, many of the Lchashen-Metsamor horizon’s most distinctive morphological and decorative elements endured well into the mid-first millennium B.C.

It is important to note one significant shift in the periodization terminology employed by Project ArAGATS. The term “Early Iron Age” has traditionally been used to identify the period of the early adoption of iron within both the Armenian and Georgian (e.g., Akhvediani 2005) archaeological traditions. The term thus has the benefit of clarity that comes from long-term use in the region. However, it also poses several problems for an overview such as this which aspires to help systematize the nomenclature employed in regional archaeology. Most obviously, if the Iron Age is to be outlined in parallel with the Bronze Age, the Early Iron Age would have to be followed by a Middle and Late Iron Age. We did indeed consider this possibility (Smith 2004), but found the terminology unsatisfactory in the absence of any consensus on what, archaeologically speaking, marked the end of the Iron Age. Furthermore, any set of terms that we adopted would have to be able to rest comfortably alongside the historical sequence that begins with the Urartian era.

After a prolonged set of discussions with many members of the ArAGATS team, we finally agreed to adopt the familiar terminological system employed in Iran where the Iron Age is subdivided according to a simple numeric system. By this system, the Early Iron Age would simply become Iron I, the Urartian-period assemblages, Iron II, and so on. This system has three major advantages. First, it frees terminology from the restrictions imposed by an early/middle/late tripartite designation and the attendant pressures to define the end of such a sequence prior to the establishment of a secure archaeological chronology. Second, it brings the southern Caucasian terminology in closer conversation with the neighboring chronological system in use in Iran. Third, as discussed below, this terminology creates opportunities for developing an archaeological periodization that can develop in parallel with, yet independent of, the traditional historical schema of dynastic succession. Despite these advantages, we offer this periodization system here not as a completely formulated system but as a preliminary outline. A full exploration of the advantages and disadvantages of this approach will have to await a future publication.

TRADITIONS OF PERIODIZATION: THE IRON II–III PERIODS (URARTU–ACHAEMENID/YERVANDID)

Within traditional archaeological nomenclature, the beginning of the Urartian period also marks the end of the use of the three-age system which organizes prehistoric archaeology in the region. However, there are strong arguments for keeping the historical chronologies of political dynasties separate from the archaeological periodization of material culture. First and foremost, changes in material culture do not emerge in lockstep with the ascendancy of a new king or hegemonic power. Thus the rhythms of transformations in the material world demand a unique

temporal framework and nomenclature. Second, we must forthrightly admit that large swaths of the post-Urartian first millennium B.C. (sixth–second centuries) are not truly “historical” eras in the South Caucasus in the sense that local textual production largely ceased (although several texts produced outside the region — Herodotus’ *History*, Xenophon’s *Anabasis*, Darius’ inscription at Bisitun, etc. — do constitute useful sources). As a result, the dynastic history of the era simply cannot provide a suitable basis for archaeological accounts which must attend to temporal and geographic variation in material culture. As mentioned above, it is important to emphasize that the extension of the Iron Age into the mid-first millennium B.C. does not constitute a rejection of historical chronologies, only a recognition that historical and archaeological approaches to periodization have distinct strengths and weaknesses.

Within the system of archaeological periodization utilized by Project ArAGATS, the arrival of Urartian forces in southern Caucasia — or, more specifically, the arrival of a radically new material culture assemblage in the wake of the Urartian invasions — marks the beginning of the Iron II period. Urartian material culture was brought into southern Caucasia by the campaigns of Argishti I during the early eighth century B.C. The campaigns of the Urartian kings succeeded in subduing local polities and confederacies in the Ararat Plain and the Lake Sevan basin and there is evidence for contacts and campaigns substantially farther to the north. But there is nothing to suggest at present that regularized Urartian authority penetrated any farther north than the southern limits of the Shirak Plain and the unique outpost on the north hill at Horom.

The periodization of Iron II assemblages is greatly assisted by the well-developed chronologies of Urartian ceramics which allow the definition of an Iron IIa phase centered on the eighth century and a IIb phase which encompasses the seventh century (Kroll 1976). However, despite numerous excellent discussions of Urartian material culture in general (e.g., Azarpay 1968; Belli 1991; Kroll 1970, 1972, 1976; Merhav 1991; van Loon 1966) and in southern Caucasia specifically (e.g., Piliposyan 1997; Piotrovskii 1959), what remains less well understood are the so-called “local” materials that are strongly represented both within Urartian fortresses and sites beyond the empire’s direct control. However, recent work by Avetisyan and Avetisyan (2006) has done much to fill in this gap.

The Iron III period is perhaps the least known of the eras under explicit examination by Project ArAGATS and thus the most difficult to parse. The end of the Urartian era in southern Caucasia, sometime during the second half of the seventh century B.C., is known almost solely through the charred remains of Karmir-Blur and the appearance of trilobed points in its mudbrick walls, a discovery which led Piotrovskii (1959) to implicate Scythian armies in Urartu’s final demise, although numerous other explanations, both external and internal, have also been offered (Smith 2003: 253–54; Zimansky 1998). The collapse of Urartu may also have brought with it transformations in settlement patterns and a severe constriction in locally produced textual sources (Khatchadourian forthcoming). Systematic research programs examining the “classical” archaeology of Armenia began only at the end of the 1940s (Khatchadourian 2008b).

The Iron IIIa period in Project ArAGATS’s periodization begins with the transformations in material culture assemblages and dislocations in settlement which followed the collapse of Urartian authority during the late seventh century B.C. This era extends uninterrupted through the era of Achaemenid suzerainty which is presently marked archaeologically more by a series of remarkable objects than by a distinctive, well-codified assemblage. The collapse of Achaemenid power eventually entailed several important material transformations in the South Caucasus, including the slow erosion of Persian cultural influence under the spread of “Hellenism.” Beginning in the late fourth century B.C., a number of conspicuous shifts in the material culture of the region mark the beginning of the Iron IIIb phase (ca. late fourth through the third century B.C.). The Iron III period comes to an end at the beginning of the second century B.C. when the unique architectural and artifactual assemblages documented at Artashat suggest a profound alteration in material repertoires. The Iron IV period, although beyond the immediate concerns of this chapter, begins with the founding of Artashat. Subsequent subdivisions of the Iron Age, including the end of the Iron IV can only be detailed through future conversations with specialists in the material culture of late antiquity and the medieval era.

In the remainder of this chapter, we outline a periodization for the second half of fourth through the mid-first millennia B.C. in southern Caucasia as a system of “chronological horizons” that are distinguished by discrete artifact assemblages as well as typologically distinct formal and decorative attributes. These sequences are defined by the co-occurrence of distinct types, stratigraphic positions, and absolute radiocarbon dates.

THE EARLY BRONZE AGE

The enduring disagreement over the proper relative chronological order of Kura-Araxes ceramic groups is one result of the absence of comprehensive published stratigraphic sequences from excavations of Kura-Araxes deposits at settlements such as Shengavit, Mokhrablur, Jrahovit, Aigevan, and others. At the same time, the general stratigraphic picture does permit us to construct a basic periodization of the Kura-Araxes horizon in southern Caucasia based on the following key observations.

- The lower level of the settlement at Mokhrablur (levels XI–IX) contained ceramics characterized by dimple and relief ornaments.
- The succeeding levels at Mokhrablur (VIII–III) contained ceramics similar to those known from Shreshblur with pressed decorations on one side (Areshian 1974: 148, 152).
- The latter materials are similar to ceramics in level II of Shengavit, but they are quite distinct from the ceramics in levels III and IV which have incised geometric ornaments around the lower neck (Sardaryan 1967: 188, 193).

In other words, three typologically distinct ceramic complexes from Kura-Araxes sites in Armenia appear at present to provide the basic foundations for outlining an Early Bronze Age material sequence.

ELAR-ARAGATS GROUP (EARLY BRONZE I)

The Elar-Aragats group constitutes the first phase of the Kura-Araxes horizon, embracing assemblages from: Aragats (Martirosyan 1964: 42–46),²⁵ Armavir (Kuftin 1944: 92–93, table 23:1–2), Frankanots (Kuftin 1944; Khanzadyan 1967),²⁶ Dzori-Berd (Sarkisyan 1988: 76–77), Elar burials 1, 3–4, 6, 8–10, 14–18, 24, 36–37 (Khanzadyan 1979), Jrvezh (Tumanyan 1989: 8), Aparan III (Badalyan 2003), Jarjaris (Mnatsakanian 1965), Chknagh,²⁷ Ketii burials 1–6 (Petrosyan 1989), Horom (lower Early Bronze level and tomb) (Badaljan et al. 1992, 1993), Talin burials 7, 10–12 (Avetisyan and Muradyan 1991), Lanjik (Petrosyan 1996), Gyumri, Harich (Khachatryan 1975), Chkalovka (Petrosyan 2002), Hartagyugh (Pogosyan and Ter-Margaryan 1998), Mokhrablur levels XI–IX (Areshian 1978), and Gegharot (Badalyan et al. forthcoming).

The Elar-Aragats group includes a limited number of diagnostic forms. These include:

- 1) Large storage jars (or pithos, Russian *pifos*, Armenian *karas*) have narrow (flat or concave) bases, broad shoulders, and either cylindrical or slightly concave necks. Complete examples are known at present only from settlement contexts (e.g., Aparan III) (see fig. 3w–x).
- 2) Single-handled pitchers (Russian *kuvshin*) have flat or concave bases that support angular (biconical), rounded, or pear-shaped bodies. The necks of these vessels are cylindrical, inverted conical, or gently rounded. Handles are generally set on the shoulder but occasionally may reach to the rim (see fig. 4).
- 3) Bowls (Russian *miska*) have wide open mouths and deep bodies that are generally rounded with the shoulders raised above the horizontal axis. The bases are flat or slightly concave. Bowls can be found without handles, with a single grip handle attached to the rim, or with two symmetrical pinch handles (or knobs) on the shoulder or at the body/shoulder join (see fig. 5).
- 4) Double-handled jars (Russian *gorshok*) have flat bases and symmetrically placed handles either between the neck and shoulder or mid-shoulder. Their bodies are either symmetrically rounded or asymmetric with shoulders raised above the horizontal axis (see fig. 3q–v).
- 5) Beakers (Russian *kubok*) are vertically elongated jars with some morphological similarities to pitchers. Beakers have a more open neck, giving them a roughly equal ratio of collar to body diameter (see fig. 3f–h).

²⁵ See also unpublished materials from the 1980 excavations of Torosyan and Petrosyan (Etchmiadzin Museum inventory nos. 3930–3966).

²⁶ Materials collected by Avetisyan in 2000 are now stored in the Institute of Archaeology and Ethnography, Yerevan.

²⁷ Materials from the site collected in 1997 by Badalyan and Avetisyan are now stored in the Institute of Archaeology and Ethnography, Yerevan.

- 6) Mugs (Russian *kruzhka*) have broad flat bases, cylindrical or inverted conical bodies, and one large grip handle mid-body (see fig. 3a–e).
- 7) Cups (Russian *chashka*) generally have biconical forms, flat or concave narrow bases, and cylindrical or inverted cone necks. Often the cups appear to repeat the morphology of beakers at a smaller scale and without handles (fig. 3i–p).
- 8) Pot stands or cooking stands (Russian *chasha-podstavka* or *ochag-podstavka*) are known primarily from Elar (e.g., burials 4, 6, 8, 10, 15). They tend to have flat bases and an inverted biconical shape which gives them the form of two mirrored trapezoids. Some have handles at the midsection.
- 9) Hearth supports or andirons (Russian *ochazhnaya podstavka*) tend to be horseshoe shaped with zoomorphic, phallic, or anthropomorphic ends. Most have handles as well. In addition to these primary ware types, there are several rarer forms known from Elar-Aragats assemblages including lids, three-footed bowls, and conical vessels (possibly crucibles).

Ornamentation is scanty on Elar-Aragats pottery (e.g., assemblages from Horom, Chknagh, Talin burial 7, Jrvezh), although what we have is quite heterogeneous. The decorative repertoire includes large dimples found on either side of handles, embossed oblique lines, single or paired raised knobs (Lanjik, Chkalovka, Dzori-Berd, Jarjaris, Aparan III), and geometric, zoomorphic, and ornithomorphic (birds with triangular bodies) designs either scratched or applied in raised relief. Decorations also include oblique checkerboard bands on the shoulder with alternate interior hatching within the rhombic or triangular lozenges. These ornaments were scratched into the slipped surface of the vessels after burnishing. Similarly decorated vessels are also known from Frankanots, Hartagyugh, Jarjaris, and Talin (burials 11 and 12).

Elar-Aragats group pottery appears in large part to have been handmade using molds. Sherds from Talin and elsewhere reveal in section three distinct layers of clay with impressions of intervening layers of textile. Often finger impressions, the result of pressing the clay into a mold, can be seen on the inner layers of the vessel fabric. The color palette for these wares is quite diverse, varying from assemblage to assemblage. Exteriors tend to be dark gray to brown with brown, dark gray, and light brown interiors. Later in the phase, we find the more classic black or dark gray exteriors with red, black, and brown interiors. The exterior surfaces are either burnished or smoothed (matte).

The geographic distribution of Elar-Aragats pottery includes the Kvemo-Kartli area (where it is referred to as the “Didube-Kiketi” style, for example, Didube, Kiketi, Samshvilde, Koda, Gomareti/Papunaant Tskaro, Kvemo Shulaveri [kurgan 3], Barmaksyz, Tash-Bash, Grmakhevistavi, Ozni), the Lake Van basin (Ernis/Archesh), and the upper Euphrates (Arslantepe VIB “royal” tomb).

The available radiocarbon determinations suggest phase I of the Early Bronze Age should be assigned to the second half of the fourth millennium B.C. extending roughly from 3500 to 2900 B.C., with two important caveats. First, the majority of dates from the lower chronological limit of the phase cluster around 3350 B.C.; at present, no Kura-Araxes sites in the South Caucasus have been dated any earlier than 3350 B.C.²⁸ Second, the extant Early Bronze I assemblages present a rather fully realized Kura-Araxes corpus, not a transitional horizon between Chalcolithic and Bronze Age traditions. This may suggest that these complexes should be tentatively assigned to an Early Bronze Ib phase (3350–2900 B.C.) in anticipation of a future account of the mid-fourth-millennium material transformations (Early Bronze Ia, 3500–3350 B.C.) that gave rise to the Kura-Araxes horizon (cf. Avetisyan, Chataighner, and Palumbi 2006; Djaparidze 1962: 22; Kiguradze and Sagona 2003; Palumbi 2003; Smith 2006).²⁹ While a beginning date for the Kura-Araxes remains uncertain, it is encouraging to note the general agreement on the date of the transition between Early Bronze I and Early Bronze II phases as the radiocarbon dates present a clear break between major assemblages at approximately 2900 B.C.

²⁸ In general, radiocarbon dates from early Kura-Araxes sites outside southern Caucasia tend to agree with those from sites in Armenia. Radiocarbon dates from the assemblages at Didube (3330–3060 B.C. calibrated to 2 sigma) also suggest placing the initial Early Bronze Age in the late fourth millennium B.C. (Kiguradze and Sagona 2003: 93). The “royal” tomb at Arslantepe, which contained Kura-Araxes ceramics analogous with Elar-Aragats materials from Armenia, has been dated to 3308–2879 B.C. (Frangipane et al. 2001: 135). A single radiocarbon determination from the bottom of the deep sounding (L17/M17) at Sos Höyük indicated an initial occupation at the site in the second half of the fourth millennium B.C. However, the related

ceramic assemblages are described by the excavators as primarily Late Chalcolithic, with only a subset of wares describable as “proto-Kura-Araxes.” As a result, it is unclear as yet how to compare them to the roughly contemporary, fully realized Kura-Araxes assemblages from the South Caucasus.

²⁹ For the definition of the lower chronological limit of Early Bronze I, it is important to keep in mind the radiocarbon dates for the pre-Kura-Araxes level (V) at the settlement of Berikdeebi (3820–3640 B.C. 2-sigma [Badaljan et al. 1992: 48] and 3955–3778 B.C. 2-sigma [Kiguradze and Sagona 2003: 93]).

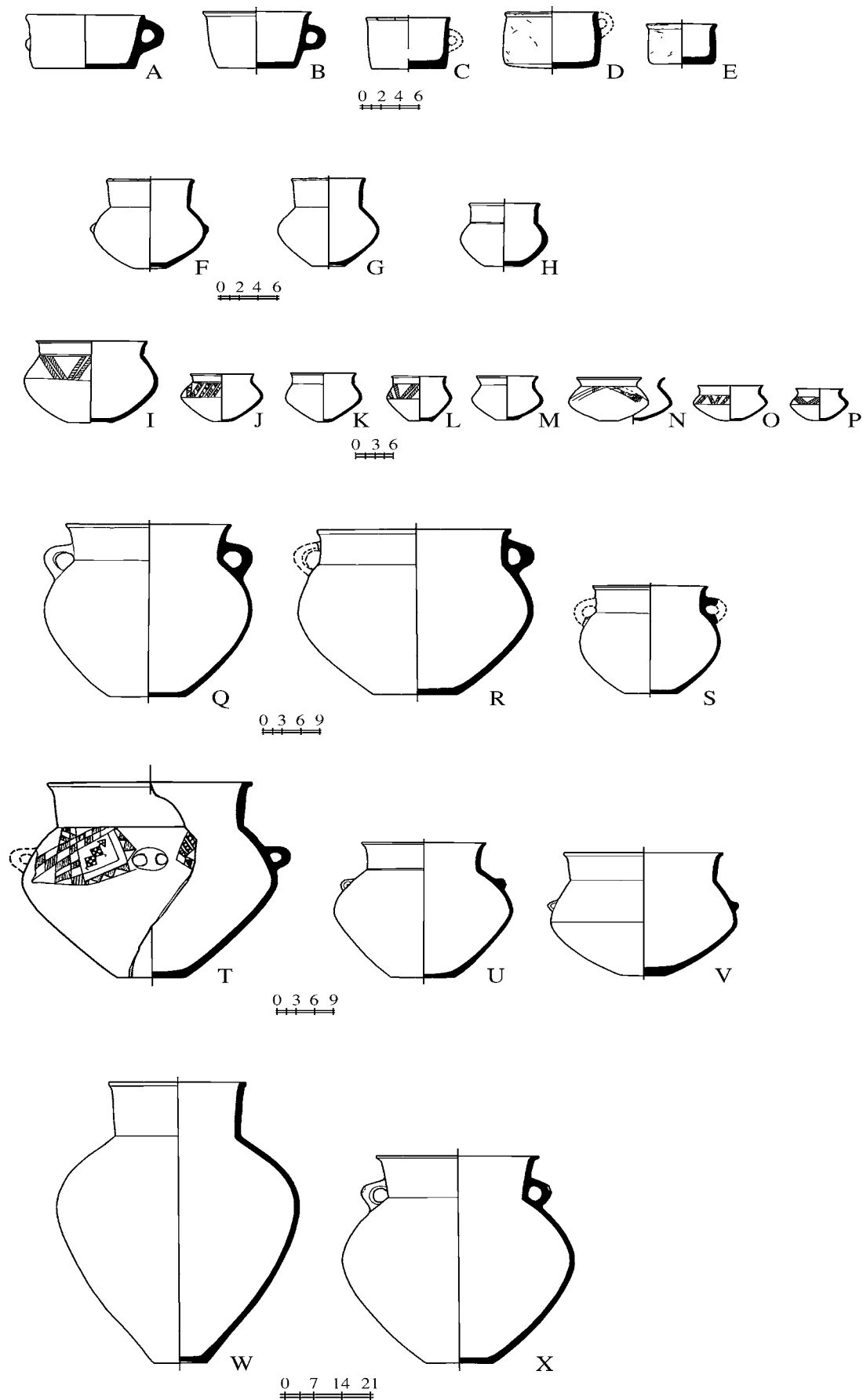


Figure 3. Elar-Aragats Group Ceramics:

(a, i) Aragats Tomb 2; (b, n, u) Frankanots; (c, g) Jrvezh; (d-e, v) Gegharot; (f) Gyumri; (h) Hartagyugh;
 (j-m, o-p) Aragats; (q) Harich; (r, t, w-x) Aparan III; (s) Talin

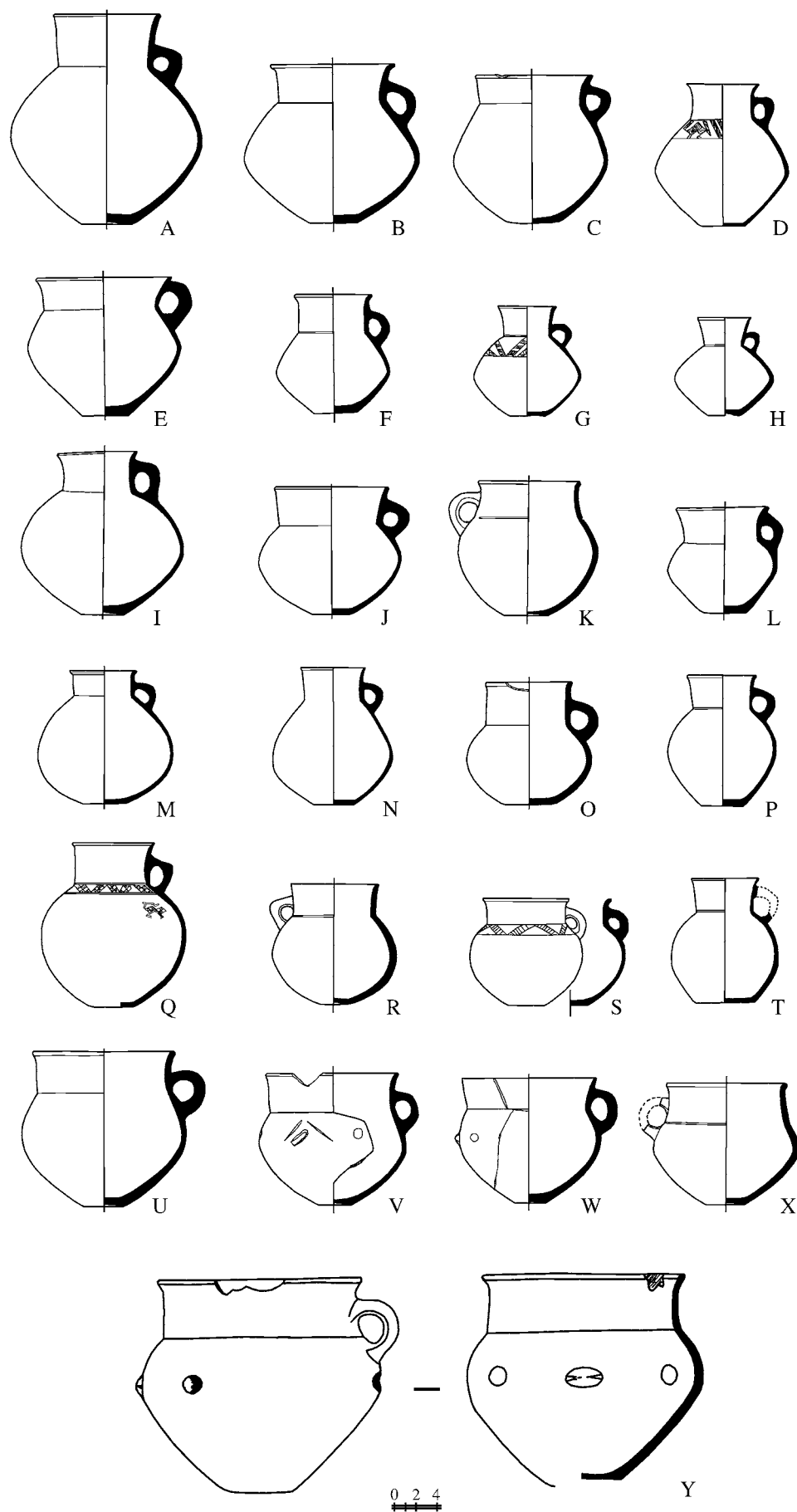


Figure 4. Elar-Aragats Group Ceramics:

(a) Amasia; (b) Frankanots; (c) Dzori-Berd; (d, h, n, q, t) Aragats, Tomb 2; (g, p) Aragats, Tomb 1; (e-f) Chknagh; (i, l) Talin, Tomb 7; (j) Gyumri; (k, r, x) Hartagyugh; (m, s) Jarjaris; (o, v-w) Chkalovka; (r) Horom; (y) Elar, Tomb 15

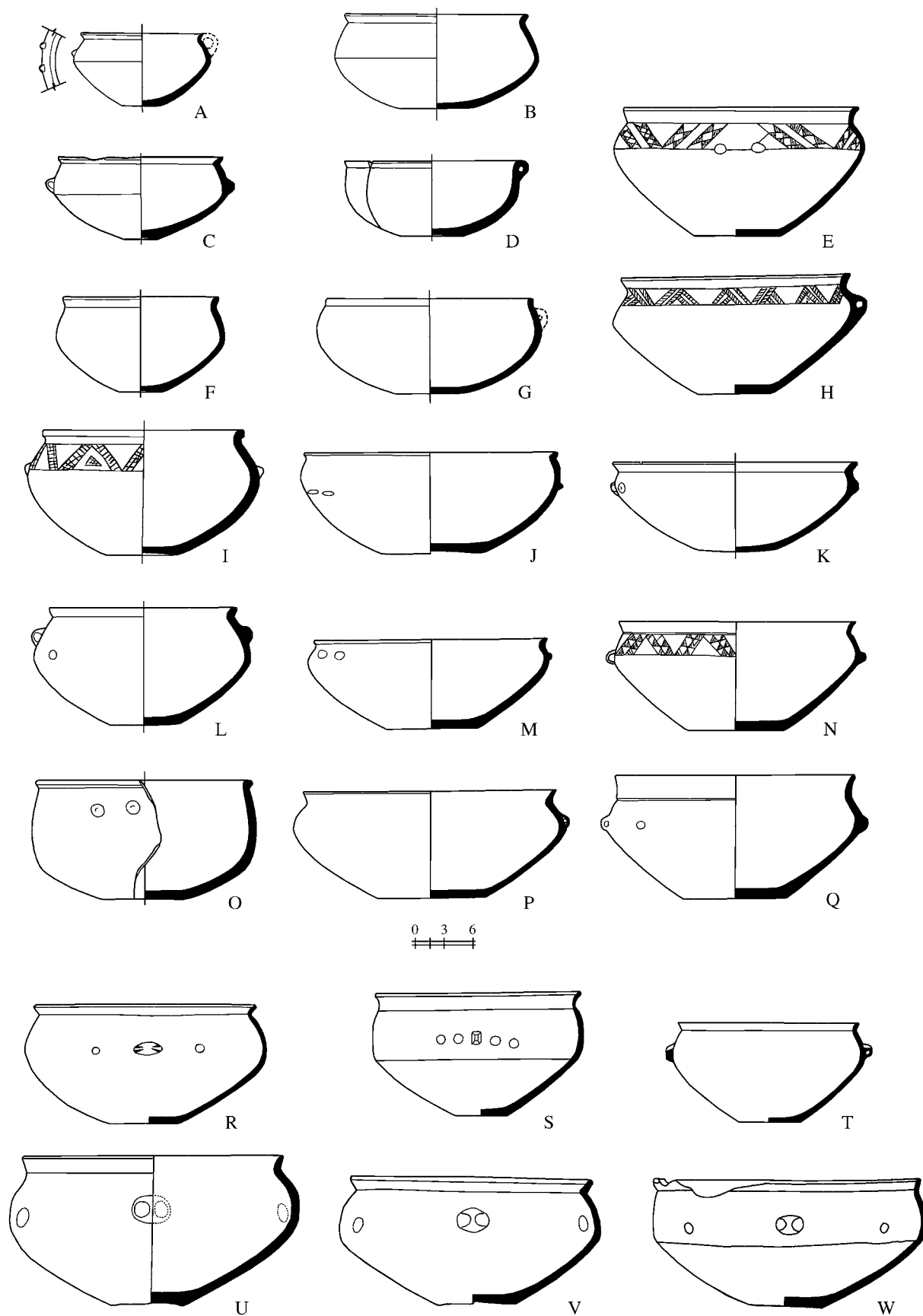


Figure 5. Elar-Aragats Group Ceramics:

(a–b) Gegharot; (c, f) Horom; (d, l) Chkalovka; (e, n) Aragats, Tomb 1; (h, j, m, p–q) Aragats, Tomb 2; (g, q) Jarjaris;
 (i) Hartagyugh; (k) Dzori-Berd; (r) Elar, Tomb 9; (s) Elar, Tomb 18; (t) Elar, Tomb 20; (u) Elar, Tomb 16;
 (v) Elar, Tomb 24; (w) Elar, Tomb 14; (r–w) Not to Any Scale

SHRESH-MOKHRABLUR GROUP (EARLY BRONZE II)

The Shresh-Mokhrablur group (Kura-Araxes II) is most clearly defined by material assemblages from Mokhrablur (levels VIII–III), Shreshblur (SHMA inventory), Shengavit level II, Agarak (Avetisyan 2003), Aghavnatur (SHMA inventory #2713), Frankanots (SHMA inventory #2714), Voskeblur (Chanzadjan 1982), and Aragats (Etchmiadzin Museum inventory #3943). Shresh-Mokhrablur assemblages are known from fewer sites than Elar-Aragats assemblages and still fewer have been published. As a result, our discussion of distinctive forms is necessarily less extensive.

The Shresh-Mokhrablur group includes a more restricted number of diagnostic forms than the Elar-Aragats group. Lids, pot stands, and hearth supports continue within the same formal traditions. However, the following formal alterations are of note.

- 1) Beakers are the dominant form of Shresh-Mokhrablur ceramic assemblages. There are three primary variants defined in relation to the handle: beakers without handles, beakers with rudimentary handles on the shoulder or body, and beakers with large handles extending from rim to shoulder. The basic form of the beaker is tripartite, with narrow concave bases, concave lower bodies, and wide concave necks (see fig. 6a–n).
- 2) The Shresh-Mokhrablur group also includes spherical bowls (fig. 6r), ovoid mugs with more rounded shapes than the cylindrical examples from the Elar-Aragats group (fig. 6q), cylindrical vessels with flat, flared rims (fig. 6t), shallow stemmed vessels with cylindrical legs and optional handles (perhaps lamps?) (fig. 6o–p), and double-handled pots (fig. 6s) with tripartite forms, accented neck/shoulder breaks, sharply inverted conical bodies, and narrow bases.

Ornamentation is the most distinctive aspect of Shresh-Mokhrablur group ceramics. Distinctive motifs include very large pressed circular dimples and embossed symmetric vegetal emblems. The latter are always located on just one face of the body. The color palette of Shresh-Mokhrablur wares is dominated by the iconic burnished black exteriors with red or black interiors. The exterior surfaces are often so highly burnished they have a silver sheen.

The earliest radiocarbon determinations for Shresh-Mokhrablur group assemblages are confined to the first half of the third millennium B.C.³⁰ Thus, the initial appearance of these distinctive ceramics can be set at approximately 2900 B.C., which corresponds well with dates for the end of the Early Bronze I phase. It is important to note that Elar-Aragats and Shresh-Mokhrablur pottery occur together in a collective tomb at Aragats which contained thirty individuals, suggesting that it was in use for a time spanning the period of transition around 2900 B.C. A date for the disappearance of Shresh-Mokhrablur group materials is more problematic and is discussed at greater length below.

Interestingly, Shresh-Mokhrablur sites in Armenia are largely confined to the Ararat Valley. This may indicate that the coherence of the group is not simply temporal, as a phase of Kura-Araxes materials, but also spatial, as a geographically localized tradition. However, this reconstruction hinges upon recent efforts to more precisely date the materials of the Karnut-Shengavit group.

KARNUT-SHENGAVIT GROUP (EARLY BRONZE II)

Karnut-Shengavit (Kura-Araxes III?) assemblages are known primarily from north and central Armenia and southeastern Georgia (Kvemo-Kartli), at sites such as Shengavit (levels III–IV), Karnut (Badalyan 1984), Horom (upper Early Bronze level; Badaljan et al. 1994; Badaljan, Kohl, and Kroll 1997), Elar sounding P-3 (Khanzadyan 1979), Gegharot (Avetisyan, Badalyan, and Smith 2000; Badalyan et al. forthcoming; Smith et al. 2004), Kosi-Choter (Khanzadyan 1963; Devejian 2001), Jaghatsatekh (Esaian 1976), Airum I and II (Esaian 1976), Ketiburial 8 (Petrosyan 1989), Harich (Khachatrian 1975), Dvin (Kushnareva 1977), Aigevan (Esaian 1976), Dovri (Hmayakyan et al. 1987), Karmrakar,³¹ and Lusakhyur.³²

³⁰ A single radiocarbon determination (GrN-8178) extends well into the second half of the third millennium B.C. and has appropriately been rejected within the literature (Kushnareva 1993: 88; cf. Badalyan 1996: 13).

³¹ Unpublished materials in the Institute of Archaeology and Ethnography, Yerevan.

³² Unpublished materials in the Institute of Archaeology and Ethnography, Yerevan.

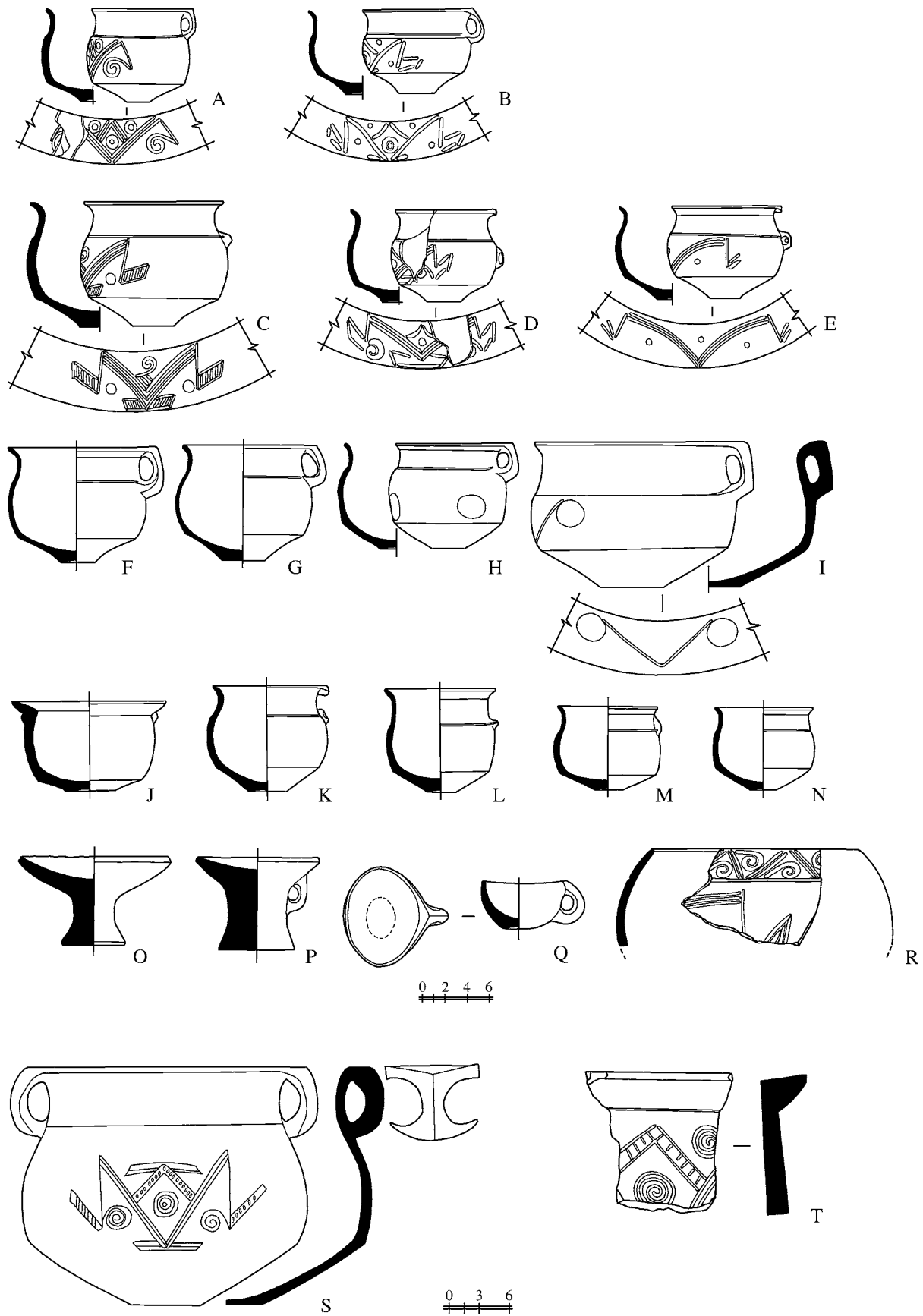


Figure 6. Shresh-Mokhrablur Group Ceramics:
(a–h, j–r, t) Mokhrablur; (i) Frankanots; (s) Aragats

The Karnut-Shengavit group is defined by a series of highly diagnostic forms.

- 1) Pithoi tend to be tall vertically elongated vessels without handles (although occasionally with decorative knobs). They have disproportionately small bases and egg-shaped bodies with raised shoulders (see fig. 7a–b).
- 2) Mid-sized storage jars have the familiar tripartite form composed of slightly concave lower bodies, rounded midsections, and concave necks (see fig. 7c–d).
- 3) Pitchers of the Karnut-Shengavit group have raised shoulders, conical necks, and three equally spaced handles on the lower body (see fig. 7i–k).
- 4) Wide-mouthed pots repeat the traditional tripartite Kura-Araxes vessel architecture (although occasionally the body/lower body join is more rounded than angular) with two pinch handles on opposite shoulders (see fig. 7e–h). These vessels range widely in size.
- 5) Beakers are similar to Shresh-Mokhrablur group forms (and also have parallels with wide-mouthed pots) with the same tripartite morphology. They can be grouped into four basic categories: vessels without handles, those with a single grip handle from the rim to the shoulder, those with a single grip handle on the body, or those with two small pinch handles on opposite sides of the body (see fig. 8).
- 6) Hearth supports and andirons from Karnut-Shengavit assemblages include two traditions. The first are horseshoe shaped with zoomorphic or anthropomorphic ends, similar to those known from Elar-Aragats assemblages. The second are more rectangular with sculpted zoomorphic protomes on each end. The latter vary in size from large stationary “appliances” to smaller, more portable, replicas. At present, these are only known from Karnut-Shengavit assemblages.

Cylindrical and conical vessels, spherical bowls, lids, and pot stands are also represented in Karnut-Shengavit assemblages.

The most distinctive element of the Karnut-Shengavit group is a belt of geometric designs incised on the lower shoulder before firing. Often, the body is also decorated with embossed symmetric designs on the front face (similar to Shresh-Mokhrablur ornamental technology and composition) but with more geometric, angular figures. Other features of ornamentation continue technical (e.g., applied decor in relief) and stylistic (e.g., spiral designs) elements known in the previous two groups.

In general, the pottery of the Karnut-Shengavit group appears to be handmade. However, petrographic analysis of several samples from Karnut and Lusakhyur revealed a regular orientation of temper and pores perhaps indicative of manufacture on a slow wheel.

Based on the available dates from Karnut, Shengavit, and Baba-Dervish, Badalyan (1996) has previously suggested a date for the Karnut-Shengavit group of 2600 to 2400/2200 B.C. Avetisyan (2002, 2003) has subsequently argued that the end of the Early Bronze III phase should be dated to the twenty-fourth century B.C. However, recently acquired dates for Early Bronze Age complexes (particularly those arising from the excavations of Project ArAGATS at Gegharot) have created a significant problem for the chronological ordering of Shresh-Mokhrablur and Karnut-Shengavit assemblages.

The extant determinations provide two possible chronological schema for the Karnut-Shengavit group.³³ Traditional periodization systems set the Early Bronze II (Shresh-Mokhrablur) and Early Bronze III (Karnut-Shengavit) assemblages into a temporal order of direct succession. However, a group of dates ranging from 3100 to 2500 B.C. (four dates from Gegharot and individual dates from Karnut [AA-7555] and Shengavit [LE-458]) indicates that the Karnut-Shengavit assemblages may have been at least partially contemporary with the Shresh-Mokhrablur group. Previous chronologies of the Early Bronze Age argued that we should ignore the early dates for Karnut-Shengavit assemblages given the close agreement of available radiocarbon determinations for Shresh-Mokhrablur occupations that fix the end of that phase to around 2600–2500 B.C. But the new data from Gegharot (Badalyan et al. forthcoming) make this position less tenable.

The majority of the Kura-Araxes assemblage from Gegharot represents a complex typologically attributable to the Karnut-Shengavit group. Yet the radiocarbon dates associated with these occupation levels (AA-52900, AA-66894, AA-66895, AA-72045) are confined to roughly the four centuries between 2900 and 2500 B.C. As a result,

³³ Several of the radiocarbon determinations from Karnut-Shengavit layers in Armenia must be discounted as either too broad in their calibrated ranges (LE-4488 with a deviation of 230 years) or simply

inaccurate (AA-52899 from Gegharot which yielded a date in the early second millennium B.C. without any known corresponding materials or levels).

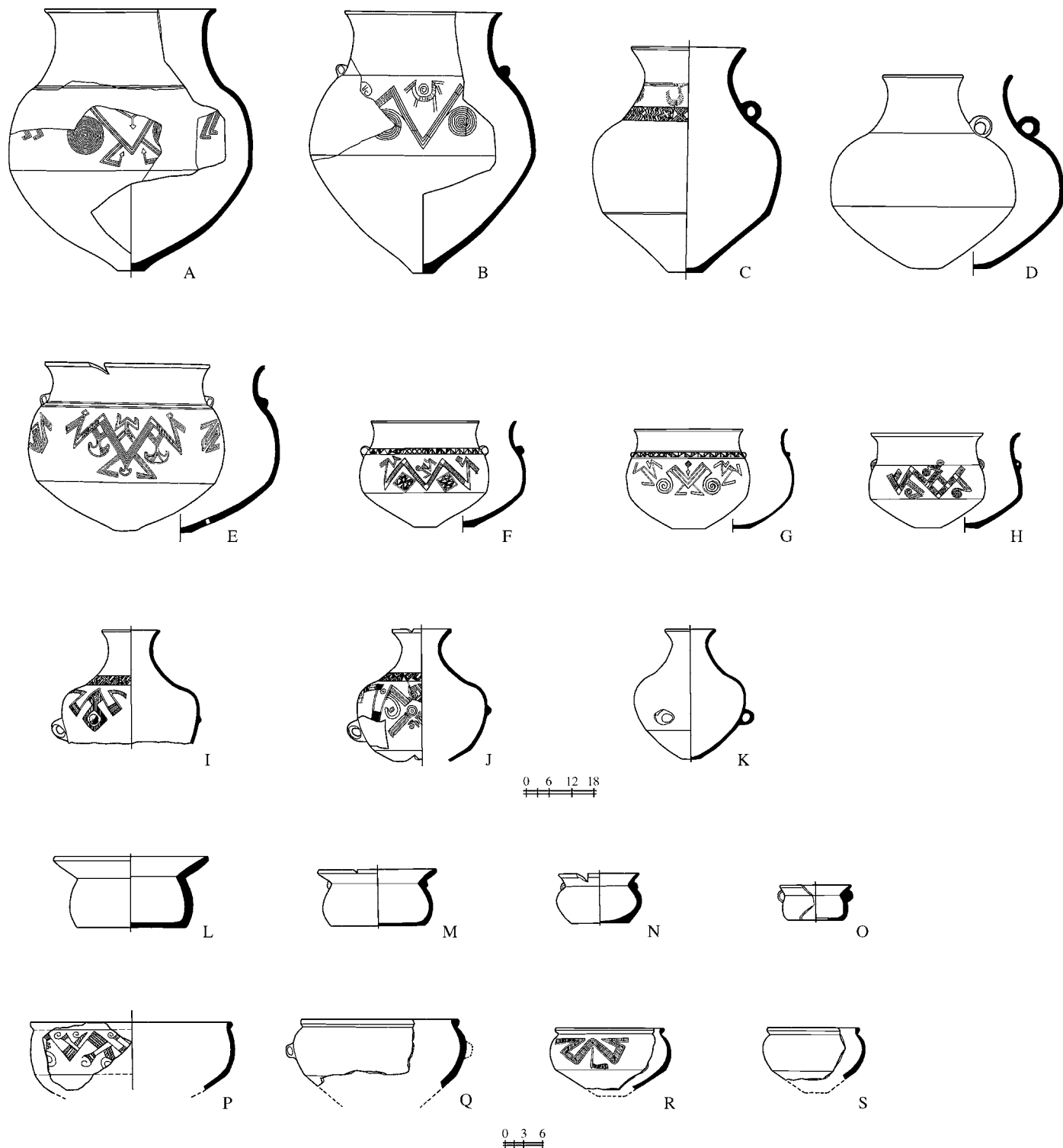


Figure 7. Karnut-Shengavit Group Ceramics:
(a–f, i–s) Karnut; (g) Gegharot; (h) Frankanots

they are closely synchronous with the pair of dates from Karnut (AA-7555) and Shengavit (LE-458) that had previously been rejected as too early and articulate well with the extant dates for the end of the Early Bronze I (from Gegharot, Horom, Aparan III, Talin, etc.). These absolute dates clearly place the Karnut-Shengavit assemblages at Gegharot and other sites as contemporary with Shresh-Mokhrablur complexes, dating to 2900–2600 B.C.

Given that the known Shresh-Mokhrablur group assemblages appear to be limited geographically to the Ararat Valley while Karnut-Shengavit complexes have been found primarily in the highlands of Aragatsotn, Shirak, Lori-Pambak, and northeastern Armenia (Aghstev-Taush), it is reasonable to suggest that the Early Bronze II phase was represented by two contemporary local ceramic complexes — Shresh-Mokhrablur in the Ararat Valley and

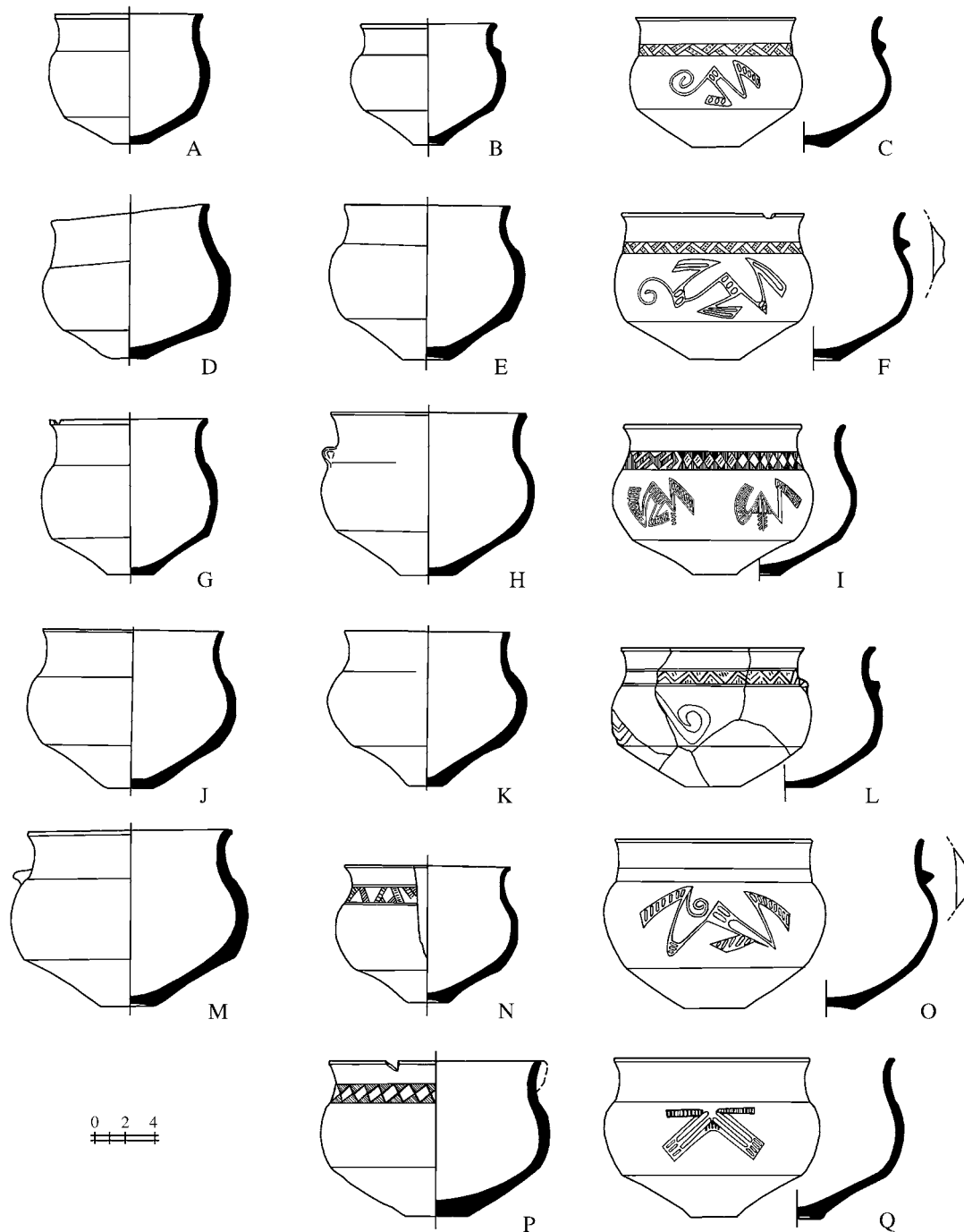


Figure 8. Karnut-Shengavit Group Ceramics:
(a–b, d–e, g–n, p–q) Karnut; (c, f, o) Gegharot

Karnut-Shengavit to the north and the east. In other words, the Karnut-Shengavit pottery does not belong to an Early Bronze III phase but rather represents a geographically distinct complex of the Early Bronze II. As a result, the periodization of the Kura-Araxes horizon in Armenia should include just two temporal phases. Phase I extends from 3600/3500 to 2900 B.C. while phase II ranges from 2900 to 2600/2500 B.C.³⁴ In determining a provisional date for the end of the Karnut-Shengavit group (and the collapse of the Kura-Araxes horizon in general) it is important to consider the available evidence for the beginning of the succeeding Early Kurgans phase.

³⁴ It is significant that two new dates from Simonyan's recent excavations at Shengavit (Bln-5526: 4462 ± 47, 3350–2920 B.C. at 2-sigma; and Bln-5527: 4116 ± 38, 2860–2580 B.C. at 2-sigma),

although without stratigraphic context, align well with this two-phase schema.

TRANSITION TO THE MIDDLE BRONZE AGE

Radical transformations in settlement patterns at the end of the Kura-Araxes period leave us with an archaeological record for the transition between the Early and Middle Bronze Ages composed primarily of burials, with very few settlements to provide stratigraphic clues to the relative sequence of the major horizons. Furthermore, few radiocarbon determinations are available to anchor our chronologies. As a result, the periodization and chronology of the transition between the Early and Middle Bronze Ages at present relies primarily upon the close seriation of materials from sites that contain overlapping assemblages.

EARLY KURGANS GROUP (EARLY BRONZE IV/MIDDLE BRONZE I)

The earliest kurgans in the South Caucasus include materials clearly reminiscent of Kura-Araxes traditions even as they introduce important new formal and decorative elements. Assemblages from sites in Georgia (such as Amiranis Gora III, Ilto, Tsikhiagora, and others) contemporary with Karnut-Shengavit complexes indicate that a new material tradition was developing in the lengthening shadow of the Kura-Araxes. Furthermore, these new material traditions were associated with a radically new way of life, centered not in mixed agro-pastoral villages but in nomadic pastoralist communities. As a result, the Early Kurgans (or Martkopi-Bedeni) assemblages are understood as transitional between Early and Middle Bronze Age traditions (Pitskhelauri 1987, 1990).

The Early Kurgans group embraces a number of contemporary local ceramic traditions. The best known of these is the Martkopi-Bedeni style known primarily from sites in Georgia, but also documented in Azerbaijan (e.g., Mingechaur; Akhundov 1996) and Daghestan (e.g., Velikent; Gadzhiev et al. 1997). In Armenia, the Martkopi-Bedeni tradition is visible in two primary manifestations. First, Martkopi-Bedeni materials appear either as homogenous assemblages (to date, this is the case only at Berkaber [cf. Areshian, Simonyan, and Gasparyan 1987: 6–8; Areshian and Simonyan 1988, 1989]) or as “imports” included among heterogeneous complexes (Dvin, Nor Oshakan [Makharadze 1994: table 35.2; Ramishvili 1991: table 43; Djaparidze 1998b: figs. 6, 43]). Second, ceramics from several important sites (Shengavit tombs 1–3, Dvin, Maisyan tombs 4 and 5 [Areshian 1986]) suggest a morphological syncretism between local Early Kurgans and Martkopi-Bedeni styles. Far more prevalent at Early Bronze IV/Middle Bronze I sites in Armenia is a local Early Kurgans ceramic tradition derivative of Kura-Araxes pottery yet clearly unique in its morphology. Here we describe only this ceramic tradition.

Early Kurgans 1 pottery is known in Armenia from the tombs of Shengavit, Berkaber, Nor Oshakan, Maisyan and have features in common with the early group of Trialeti and Martkopi tombs in Georgia (fig. 9). Early Kurgans 2 pottery is typical for complexes like Berkaber (fig. 10).

The typological composition of Early Kurgans ceramics includes the following principal forms:

- 1) Large two-handled pots occur in several distinctive forms:
 - a) Two-handled jars with sharply twisted handle attachments, disproportionately narrow, flat bases, and wide, high necks. The handles are situated on the neck or at its base. The body of the vessel is convex emphasizing its pronounced tripartite form (fig. 9o).
 - b) Two-handled, wide-necked, flat-bottomed jars with rounded bodies that bulge close to the base (fig. 9n).
 - c) Two-handled, biconical jars with comparatively wide, flat bases, and rims placed on the shoulders (fig. 9k, m).
 - d) Two-handled, biconical jars with swollen midsections, wide necks, thick, straight rims, and narrow bases (fig. 9j, l).
- 2) Pots of the Early Kurgans group lack handles but have wide necks with plain rims and flat or concave bases. The broad diameter of the body emphasizes the convexity of the vessel walls (fig. 9g–h).
- 3) Bowls occur in two diagnostic forms:
 - a) Wide, one-handled bowls with rounded or conical bodies and flat or slightly concave bases. Often on the lip of the vessels there is a wide border created in relief. The handles are placed on or just below the rim (fig. 9b–d).
 - b) Flat-bottomed bowls without handles. These bowls have short necks and a conspicuous bulge in the body at the midsection (fig. 9a).

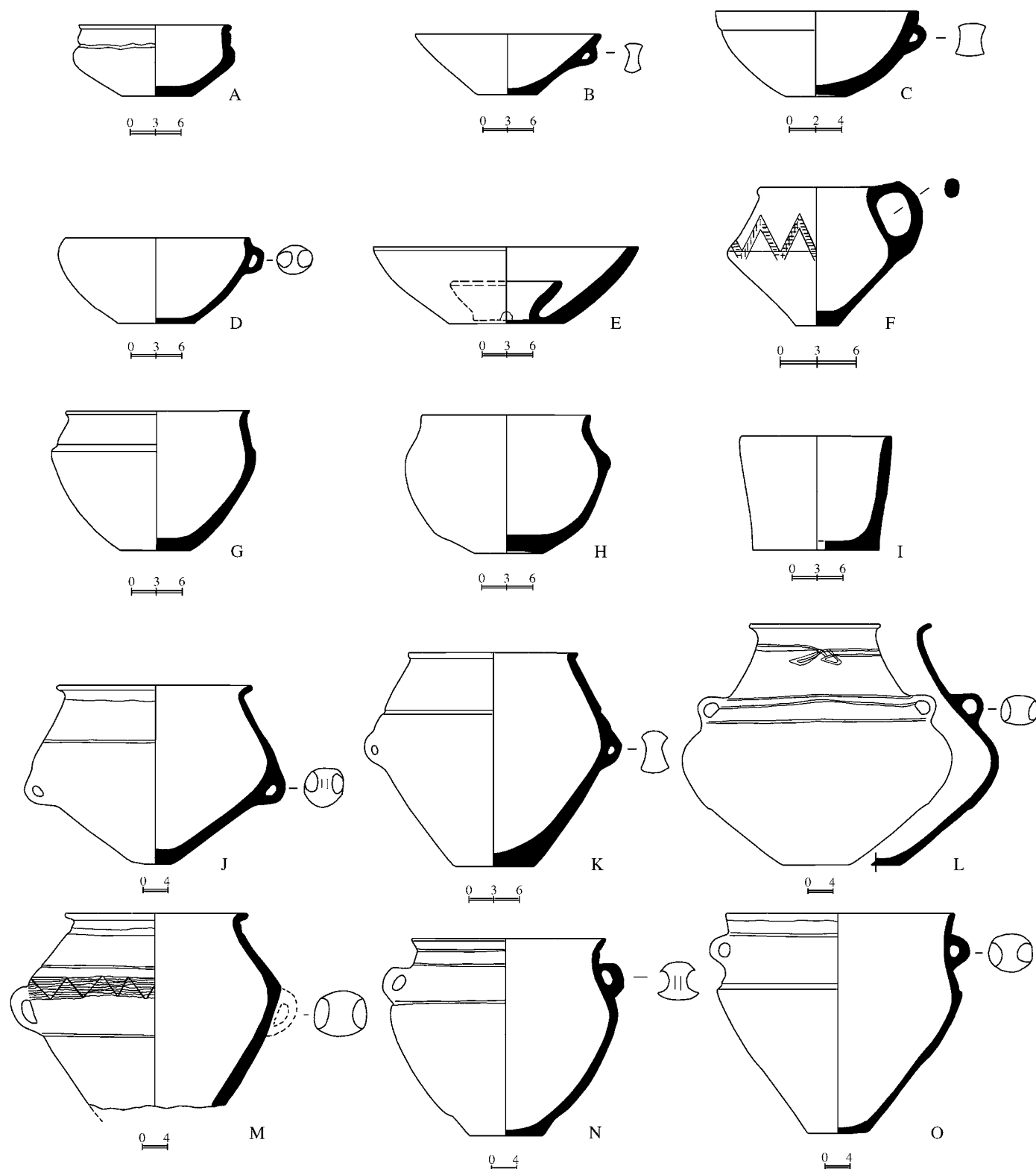


Figure 9. Early Kurgans 1 Ceramics: Mixed Complexes (Kura-Araxes/Early Kurgans):
 (a–e, g–i) Shengavit Tomb 1; (j–o) Shengavit Tomb 2; (f) Nor Oshakan Tomb 26a

Other distinctive ceramic forms, known primarily from isolated finds, include a cylindrical, flat-bottomed “cup” (fig. 9i) and a “fish plate” (fig. 9e) from Shengavit tomb 1, as well as a jug with a distinctive rounded body and conical neck (from Nor Oshakan burial 26a; fig 9f).

Ornamentation is highly unusual on Early Kurgans horizon ceramics. Only a small portion of the extant corpus of vessels is decorated, typically with just two or three horizontal impressed belts of hatched triangles or herring-

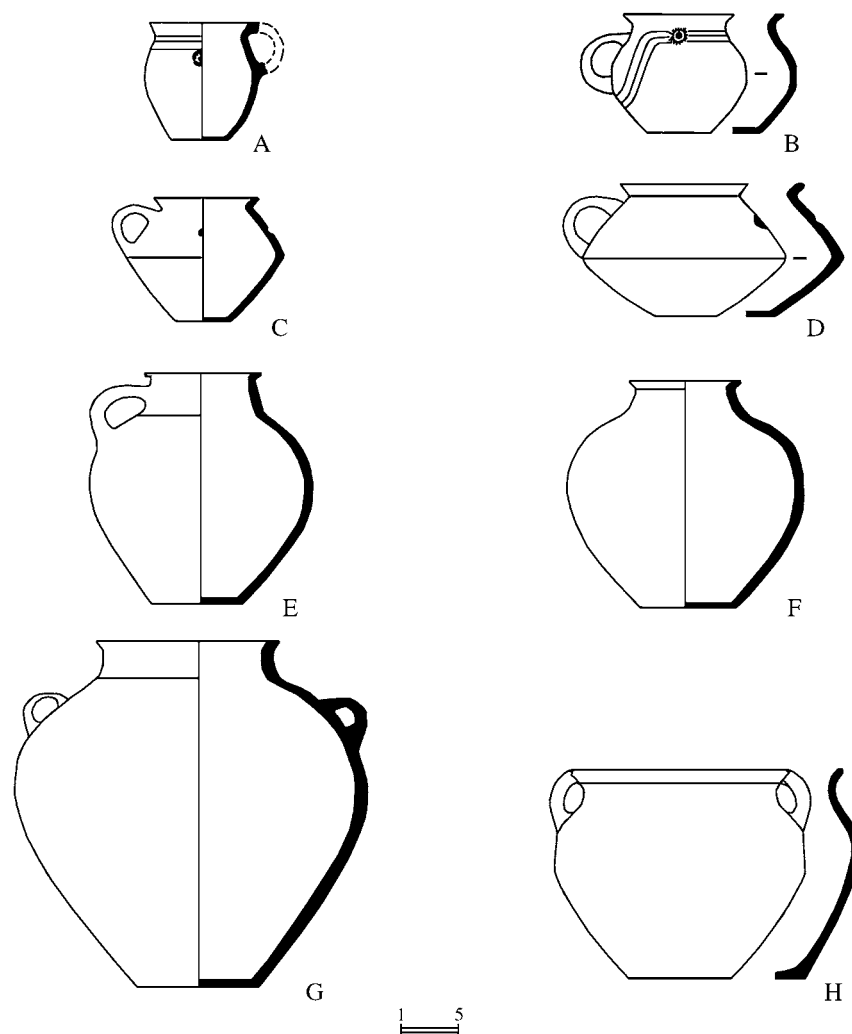


Figure 10. Early Kurgans 2 Ceramics: (a–h) Berkaber Tomb 1 (1981)

bone incisions. Early Kurgans pottery is thick-walled, with a color palette that is largely restricted to black matte exteriors and red or pink interiors.

The co-occurrence of Karnut-Shengavit and Early Kurgans materials at several sites suggests a transformation in material repertoires during the Early to Middle Bronze Age transition and perhaps a significant social and/or demographic break. We have stratigraphic evidence of a shift between late Kura-Araxes and the Early Kurgans phase from several sites. At Tsikhiagora, settlement layers show a gradual change in the percentages of wares from predominantly Karnut-Shengavit group pottery to mixed levels where Martkopi-Bedeni wares predominate. Similarly, the late Early Bronze Age settlement at Dvin primarily contained ceramics of the Karnut-Shengavit group, but also yielded several Bedeni vessels (Sardaryan 1967: table 66 [#2]; Kushnareva 1977: fig. 5). At Ilto, classic forms of Karnut-Shengavit ceramics were found together in burials with pottery clearly in the Martkopi-Bedeni tradition. Lastly, at Shengavit, burials cut into the upper settlement layer (Shengavit IV) contained primarily local Early Kurgans pottery and a vessel that appears to synthesize local and Martkopi-Bedeni Early Kurgans traditions.

The Shengavit crypts³⁵ provide an important key for synchronizing the florescence of Martkopi-Bedeni ceramic styles with local Early Kurgans pottery farther south. Beyond the South Caucasus, the Middle Bronze IV/Early Bronze I also witnessed an increasing localization of material styles and production; however, parallels with South Caucasus ceramics can still be seen at sites such as Sos Höyük VD (Sagona 2000: 329–73, figs. 14–17) and Norşun Tepe 8–6 (Early Bronze III; Hauptman 1969: fig. 11). The similarity of materials from the Upper Euphra-

³⁵ We use the term “crypt” to refer to collective burials holding multiple individuals whose bodies were interred over time. They usually have a dromos, or some other architectural feature that allows

the tomb to be easily re-opened to allow for repeated access to the tomb.

tes in the southwest to Daghestan in the northeast — Tsikhiagora B2, Ilto, Martkopi burials 2 and 4, Sos Höyük (M16c destroyed) burials, Velikent #8 and catacomb I/3 — clearly cautions that while increasing regionalism is part of Middle Bronze Age social life, this was happening in communities that were in close contact across a broad swath of the Caucasus and Armenian Highland (Hauptman 2000: 419–38, fig. 7; Makharadze 1994: table 28.2, 3; Dedabrishvili 1969: figs. 63–64, 81; Djaparidze 1998a: figs. 7, 17; Sagona 2000: fig. 162; Gadzhiev 1991: fig. 2615; Magomedov 2000: fig. 134). Furthermore, these transformations articulate with earlier Kura-Araxes material traditions. For example, the decorative motifs on the painted pottery from Norşun Tepe early horizons (13–9) repeat in a different medium traditional Karnut-Shenghavit ornamentation.

In general, the transition between the Kura-Araxes and the Early Kurgans horizon is defined by stratigraphic relations between three distinct ceramic inventories:

- 1) Kura-Araxes settlement levels without mixed materials (Karnut, Shenghavit IV, Tsikhiagora B3, Norşun Tepe 13–9).
- 2) Settlement levels where Kura-Araxes pottery is found alongside characteristic Early Kurgans wares (Dvin, Amiranis Gora III, Tsikhiagora B2, B1, A, Ilto, Norşun Tepe 8–6).
- 3) Burials containing primarily, if not exclusively, Early Kurgans materials (Shenghavit crypts, Ilto, Amiranis Gora, Sos Höyük).

Thus the Early Kurgans horizon (and its local variants) emerged as the Kura-Araxes waned. As discussed above, the date for the end of the Kura-Araxes tradition is not well established, allowing us to point only to a general range for the transition to the Early Kurgans horizon. Unfortunately, the available radiocarbon determinations from Early Kurgans contexts have not yielded a clear date that might provide a stable end date for the Kura-Araxes. The calibrated ranges for Early Kurgans samples encompass practically the entirety of the third millennium B.C. As a result, efforts to provide an absolute chronology for the Early Kurgans materials have arrived at very different conclusions. G. Kavtaradze has argued that the Early Kurgans complexes (which he assigns to the Early Bronze II period) date to the early to mid-third millennium B.C. Edens (1995: 57) points out that the available radiocarbon dates support neither Kavtaradze's dating nor the traditional assignment of the Early Kurgans horizon to the last quarter of the third millennium, which leads him to place it in the mid-third millennium B.C. Finally, Avetisyan (2002, 2003) argues that the Early Kurgans horizon should be dated from the late twenty-fourth to the early twenty-second centuries B.C. Despite the diversity of opinion, there is growing agreement that the Early Kurgans horizon flourished sometime in the third quarter of the third millennium B.C.³⁶

THE MIDDLE BRONZE AGE

TRIALETI-VANADZOR I AND II AND SEVAN-UZERLIK I GROUPS (MIDDLE BRONZE II)

Perhaps the best known of the Middle Bronze Age material culture horizons is the Trialeti-Vanadzor (formerly Trialeti-Kirovakan) group. Because no Middle Bronze I settlements are known from southern Caucasia at present, it is impossible to clearly define the stratigraphic relations between the Early Kurgans horizon and its successors in this region. However, it seems clear from sites in northern Caucasia that the Early Kurgans assemblages were succeeded by Trialeti (flourishing phase) and analogous complexes from the south, such as those from Vanadzor. Trialeti-Vanadzor assemblages are best known from sites such as Artashavan (tomb 5; Avetisyan, Engibaryan, and Sargsyan 1998), the Great Kurgan at Karashamb (Oganesyan 1992), Lchashen (tombs 120, 123; Mnatsakanian 1965), Sisian II (tomb 2; Avetisyan et al. 2000), Nerkin Naver (tomb I; Simonyan 2004), Maisyan (tomb 13; unpublished excavations of Areshian), Lori-Berd (tombs 60, 65, 77, 79, 94; Devezian 2006), Artsaverd (tomb; Esaian 1976), Yerevan (tomb of Avan; Esaian and Mikaelyan 1971), Karashamb (tomb 48; Oganesyan 1990), and the tomb of Noratus (Martirosyan 1964).

³⁶ Based on his investigations in northeastern Anatolia, Sagona (2004: 479, 491–92) has suggested that Kura-Araxes materials continued in the sequences from Sos Höyük well into the second millennium B.C., alongside Early Kurgans (Martkopi-Bedeni) and Trialeti assemblages. This is a distinctly anomalous account of the Kura-Araxes sequence.

It may well be that Sagona's findings are the result of a regionally specific tradition or a product of discrepancies in Kura-Araxes typologies and nomenclature. In the absence of corroborating evidence of an enduring late Kura-Araxes tradition, we set aside the Sos data in this discussion.

It is important to note that Trialeti-Vanadzor complexes, while typologically unified, are not entirely homogeneous. Avetisyan (2003) has subdivided the horizon into three distinct chronological subgroups. Here we discuss only the broader parameters of the horizon as a whole.

The Trialeti-Vanadzor horizon is typically characterized by a suite of archaeological markers defined by assemblages from a series of large kurgans. The first phase of the Trialeti-Vanadzor horizon coincides with complexes such as the Great Kurgan of Karashamb and the lowest layer of the settlement at Uzerlik Tepe. It overlaps with Trialeti stage I of the “flourishing phase” in Gogadze’s (1972) periodization, but only partly, since in Gogadze’s stage I are kurgans which we ascribe to the second phase of the Early Kurgans period (such as Trialeti kurgan IV). The second phase of the Trialeti-Vanadzor horizon coincides with the complexes of the “flourishing phase” of Trialeti (partially equivalent to Gogadze’s [1972] stages II and III).³⁷

Trialeti-Vanadzor ceramics are defined most conspicuously by vessels with incised herringbone and punctate arch designs, such as those from kurgans VI, XXXVI, and XLI at Trialeti. The lowest layer at Uzerlik Tepe contained similar vessels with incised linear decorations (fir tree motifs, arches with oblique strokes, or zigzag ribbons) on black, gray, or brown surfaces (e.g., Trialeti II [flourishing phase] and the lower layer of Uzerlik Tepe [Gogadze 1972: tables 18, 29, 30; Kushnareva 1965: figs. 17–18]). Similar ceramics are also found in phases VIC and VIB at Haftavan Tepe (Edwards 1983: 13, fig. 1513). The herringbone motif, as mentioned above, is also known from Martkopi-Bedeni vessels, suggesting the derivation of Trialeti-Vanadzor wares from Early Kurgans antecedents (Djaparidze 1998b: figs. 5, 43).

Middle Bronze II ceramic traditions can be subdivided into three main subgroups: Trialeti-Vanadzor 1, Trialeti-Vanadzor 2, and Sevan-Uzerlik 1.

The pottery of Trialeti-Vanadzor 1 has primarily black, gray, and brown matte surfaces. As a rule, the interior fabrics are light in color. The pottery is generally not well fired and tends to have coarse sand temper inclusions. The ornamental repertoire includes incised linear designs and needle-sized punctate decorations. Occasionally, vessels are also decorated with ornaments in relief, including half-moon designs, “bucrania” motifs, or simple knobs. Fine wares of the Trialeti-Vanadzor 1 horizon have thick slips, black polished exteriors, and yellow-reddish interiors. In the later burials of the phase, we also find unornamented vessels with red exteriors as well as a few examples of painted pottery. The most distinctive formal elements of the horizon include the following:

- 1) Large storage vessels (Armenian *karas*) fall into two primary typological groups based on body morphology (groups that can be further subdivided by variation in the shape of the neck):
 - a) Vertically extended jars with straighter, narrower bodies supporting raised shoulders (variant A: fig. 11a–c, l; variant B: fig. 11d, g, j; variant C: fig. 11k, m).
 - b) Horizontally extended globular vessels with wider, convex bodies and raised shoulders (variant A: fig. 11e, h–i; variant B: fig. 11f).
- 2) Diagnostic jars (Russian *kuvshin*) from this phase include:
 - a) Jars with globular convex (almost egg-shaped) bodies on broad, raised shoulders with cylindrical necks (variant A: fig. 12a, k; variant B: fig. 12b, e–f; variant C: fig. 12h; variant D: fig. 12d, i; variant E: fig. 12c, j; variant F: fig. 12l; variant G: fig. 12g).
 - b) A particularly unique double jar from this horizon has a lower portion identical to figure 11c above but has a rim sculpted to form a second, superimposed vessel (fig. 16i).
- 3) Pots (Russian *gorshok*) include:
 - a) Pots with inverted-conical bodies and wide orifices (fig. 13f, o).
 - b) Spherical-bodied pots with narrow orifices and short necks (fig. 13j).
 - c) Globular-bodied pots with raised shoulders and either wide or slightly narrowed orifices and more pronounced necks (fig. 13a–d, g–h, k–n, p, r).
 - d) Elliptical pots with convex or biconical, evenly proportioned profiles and wide orifices with no necks (fig. 13i).
 - e) Pots with sharp, almost horizontal shoulders (fig. 13e).
 - f) Tall, evenly proportioned pots with simple everted rims (fig. 13q).

³⁷ The burials of the second group in Gogadze’s system (kurgans 5, 6, 17, 29, 36, 41, 45) we would attribute to the first group while certain burials (e.g., 28, 30, 42) of Gogadze’s third group we would attribute to the Late Bronze Age.

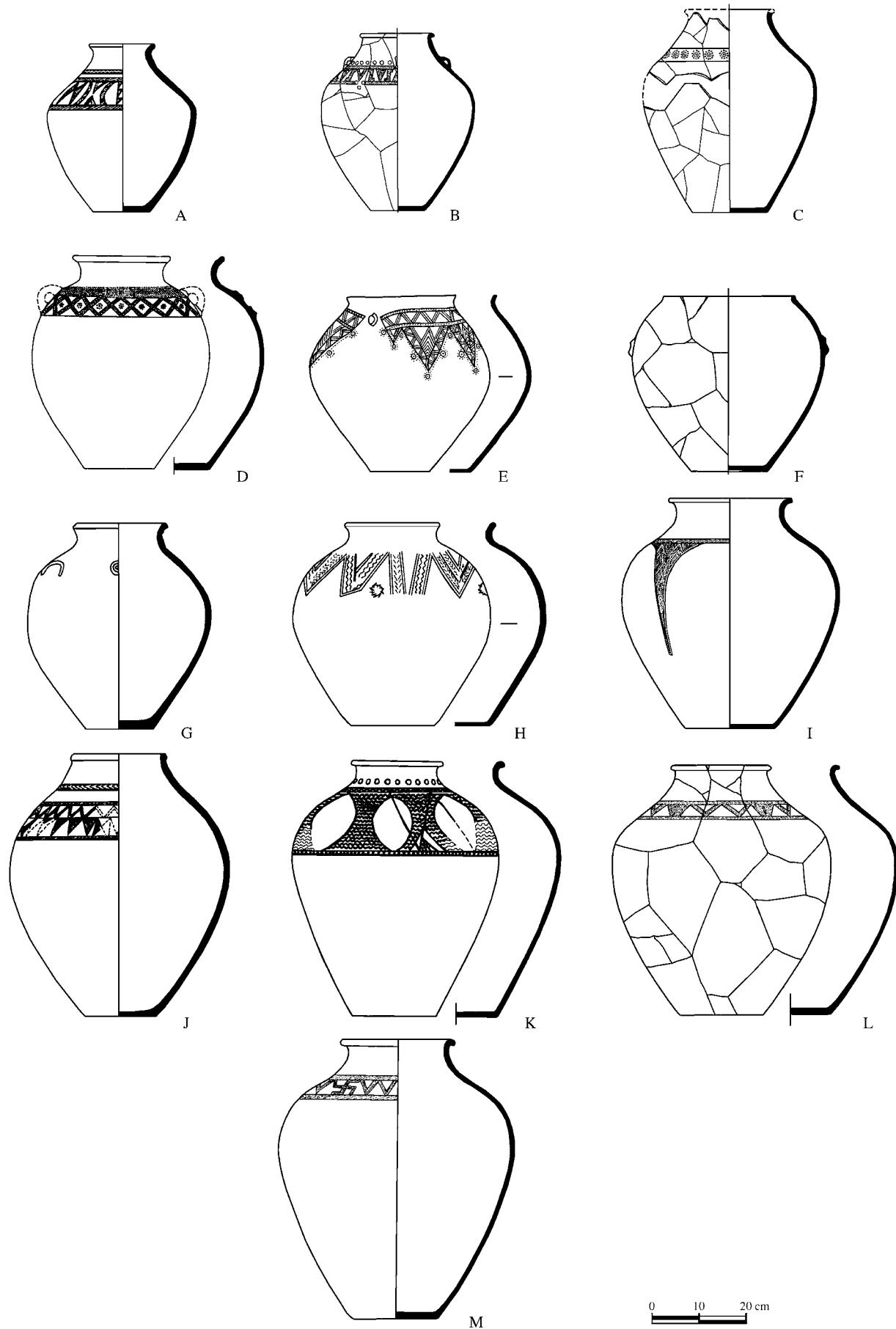


Figure 11. Thralet-Vanadzor 1 Ceramics:

(a, j) Nerkin Naver Tomb 1; (b–c, l) Lori-Berd Tomb 65; (d, k) Lori-Berd Tomb 94; (e) Karashamb Great Kurgan; (f) Lori-Berd Tomb 60; (g) Artashavan Tomb 5; (h) Lchashen Tomb 123; (i) Sisian II Tomb 2; (m) Lori-Berd Tomb 61

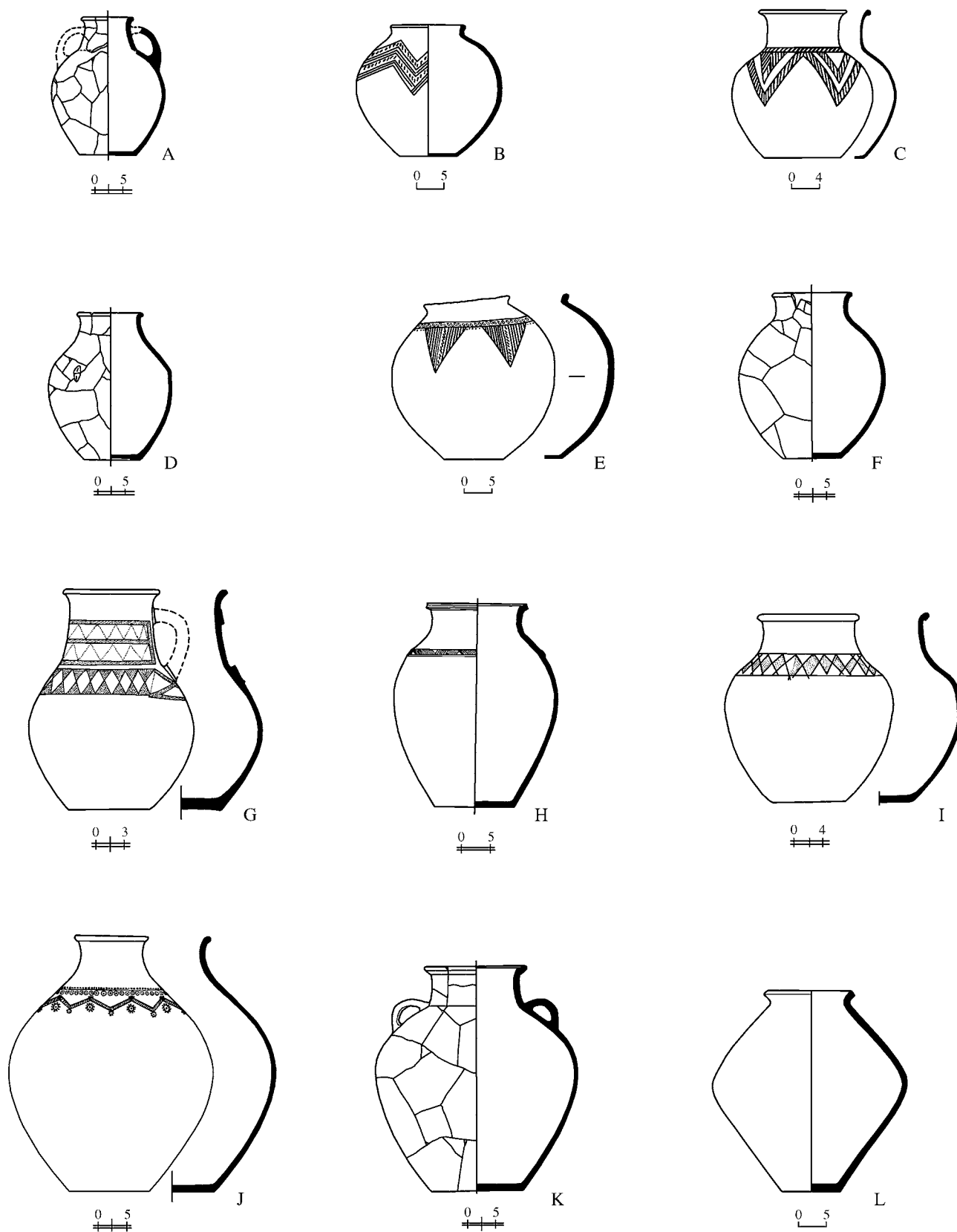


Figure 12. Trialeti-Vanadzor 1 Ceramics:

(a, d) Lori-Berd Tomb 78; (b) Lchashen Tomb 123; (c) Tomb of Nor Aresh; (e) Karashamb Great Kurgan; (f, k) Lori-Berd Tomb 65; (g) Lori-Berd Tomb 91; (h, j) Lori-Berd Tomb 94; (i) Lori-Berd Tomb 61; (l) Artashavan Tomb 5

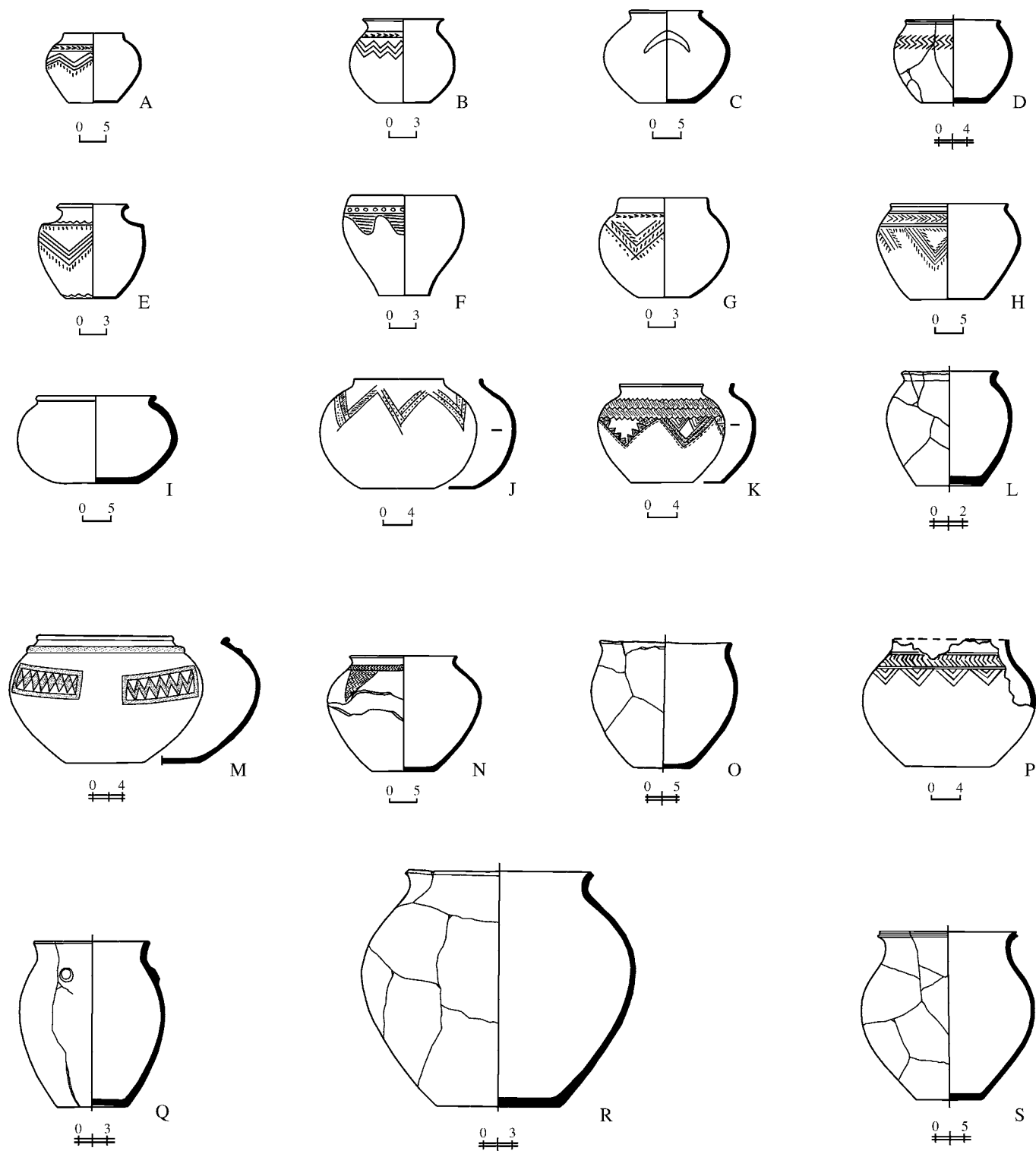


Figure 13. Trialeti-Vanadzor 1 Ceramics:

(a, c, h) Lchashen Tomb 123; (b, e–g) Lchashen Tomb 120; (d, s) Sisian II Tomb 1; (i) Artashavan Tomb 5;
 (j–k) Karashamb Great Kurgan; (l, q) Lori-Berd Tomb 60; (m) Lori-Berd Tomb 61; (n) Sisian II Tomb 2;
 (o, r) Sisian II Tomb 3; (p) Sisian II Tomb 1/Aghitu

- g) Pots with well-proportioned bodies and “rail-like” rims made by a single circumferential indentation (fig. 13s).
- 4) Bowls (Russian *miska*) are primarily distinguished by overall body shape, but within each group there is a wide variety of neck and rim forms, including:
 - a) Globular bowls with raised shoulders (fig. 14m).
 - b) Inverted cone-shaped bowls come in two sizes, small and large (fig. 14d, l, o, q).
 - c) Spherical and biconical bowls with wide orifices and evenly proportioned bodies and necks (fig. 14i, k, n).
 - d) Elliptical bowls with wide orifices and evenly proportioned bodies and necks (fig. 14p).
- 5) Cups (Russian *chashka*) include:
 - a) Conical profile cups without handles (fig. 14f).
 - b) Biconic profile mugs with a single vertical handle on the shoulder (these vessels repeat forms known from Early Kurgans horizon materials) (fig. 14e, g–h).
 - c) Spherical profile cups without handles (fig. 14a).
 - d) Cylindrical profile cups without handles (fig. 14b).
 - e) Biconic profile cups without handles (fig. 14c).
 - f) Square cups with biconical bodies and cylindrical necks (fig. 14j).

The pottery forms of the Trialeti-Vanadzor 2 horizon repeat many of the elements of the previous group, but with several notable changes. The Trialeti-Vanadzor 2 complex is comprised primarily of painted pottery: black, dark brown, and red-slipped surfaces with black or brown painted ornaments. The typical yellow-reddish interiors of the black surface wares from the Trialeti-Vanadzor 1 horizon are replaced in the Trialeti-Vanadzor 2 materials by gray interiors. The vessels are well-fired and tend to have fine and medium sand temper inclusions. Black-slipped wares, as in the Trialeti-Vanadzor 1 horizon, have incised linear designs, small needle-sized punctate decorations, ornaments in raised relief, and polished designs; however, the motifs of these ornaments change with triangular chevrons and metopes predominating. For the painted pottery, typical ornaments include triangular chevrons or triangles filled with wavy lines. Bowls are generally ornamented with concentric hanging arch designs.

The morphology of Trialeti-Vanadzor 2 large storage vessels and jars is distinct in the predominance of “egg” and “pear”-shaped forms with cylindrical or trumpet-shaped necks (figs. 15, 16d–h, q–s). Pots of the Trialeti-Vanadzor 2 horizon repeat the forms of the Trialeti-Vanadzor 1 group, but with the distinct ornamentation noted above (fig. 16a–c, j–p). Diagnostic Trialeti-Vanadzor 2 bowls have spherical bodies and rims set directly atop narrow pressed collars (fig. 17d, j, m–n, q–r). Unique to this horizon are a group of one-handled cups and ladles (Russian *kovsh*) which repeat the shapes of silver and gold vessels known from Trialeti-Vanadzor kurgans (fig. 17g). It is important to also mention the continuation of unique double vessels with rims sculpted to form a second superimposed vessel (fig. 16i) and vessels with “rail”-shaped rims (fig. 17u).

The pottery of the Sevan-Uzerlik 1 complex includes polished vessels with black or gray polished exteriors, light gray interiors, and red or yellow-red painted surfaces (fabrics tend to be gray). Much of the pottery from this group consists of poorly fired, yellow-brown kitchen, or utilitarian wares. Black wares are generally decorated with chevrons, arches, or zigzags assembled from scrawled incised lines or punctate designs made by rolled or comb incisions. The ornaments of the painted wares include primarily vertical or horizontal wavy lines as well as triangular chevrons. Like Trialeti-Vanadzor painted pottery, Sevan-Uzerlik 1 painted vessels have ornamented necks and rims.

The large storage jars of the Sevan-Uzerlik 1 horizon include only painted vessels (no black-surface storage jars are as yet known) with cylindrical broad necks and flared rims (fig. 18). Jars with “pear”-shaped or globular bodies have broad necks with flared rims. The pots of the Sevan-Uzerlik 1 group have broad flat bases, globular bodies with raised shoulders, and very short necks with flared rims. The bowls of the Sevan-Uzerlik 1 horizon are spherical, repeating the forms of the Trialeti-Vanadzor groups, with distinct ornamentation. Cups are inverted cones in profile.

The Middle Bronze II phase is also marked by important changes in metallurgical technologies from those practiced during the Early Bronze and initial Middle Bronze Ages. Compositionally, tin bronzes are increasingly prevalent during the Middle Bronze II phase. New forms arise as well, including socketed spearheads, daggers with rectangular blades, foils, bowls, metal utensils, hatchets, and hooks. Jewelry made of gold and silver also becomes increasingly widespread at this time.

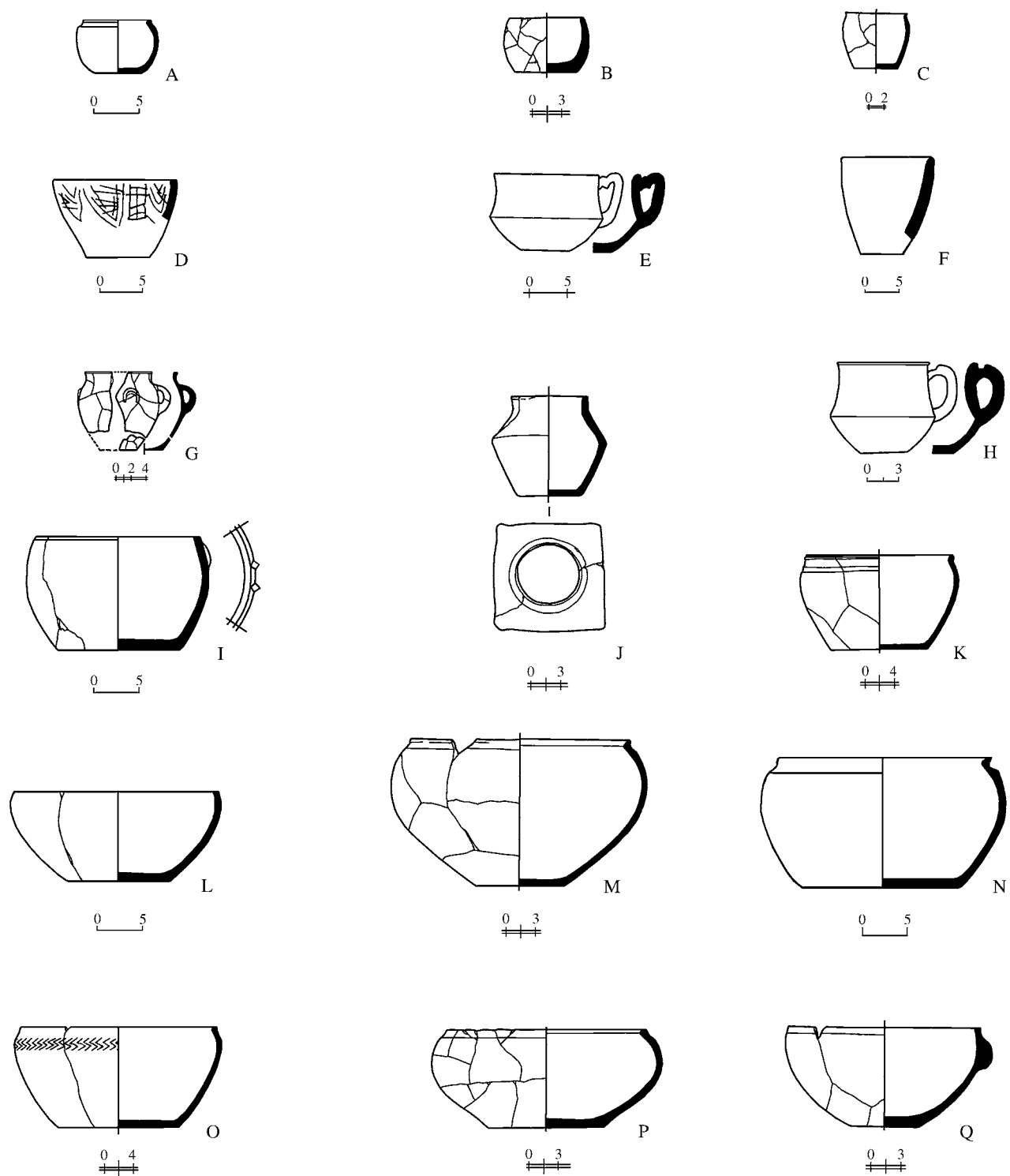


Figure 14. Trialeti-Vanadzor 1 Ceramics:

(a, i, l) Sisian II Tomb 2; (b, p) Lori-Berd Tomb 89; (c) Lori-Berd Tomb 94; (d, f) Tomb of Shatin; (e) Elar Destroyed Tomb; (g) Lori-Berd Tomb 60; (h) Ketik Tomb 11; (j, m, q) Sisian II Tomb 3; (k, o) Sisian II Tomb 1; (n) Artashavan Tomb 5

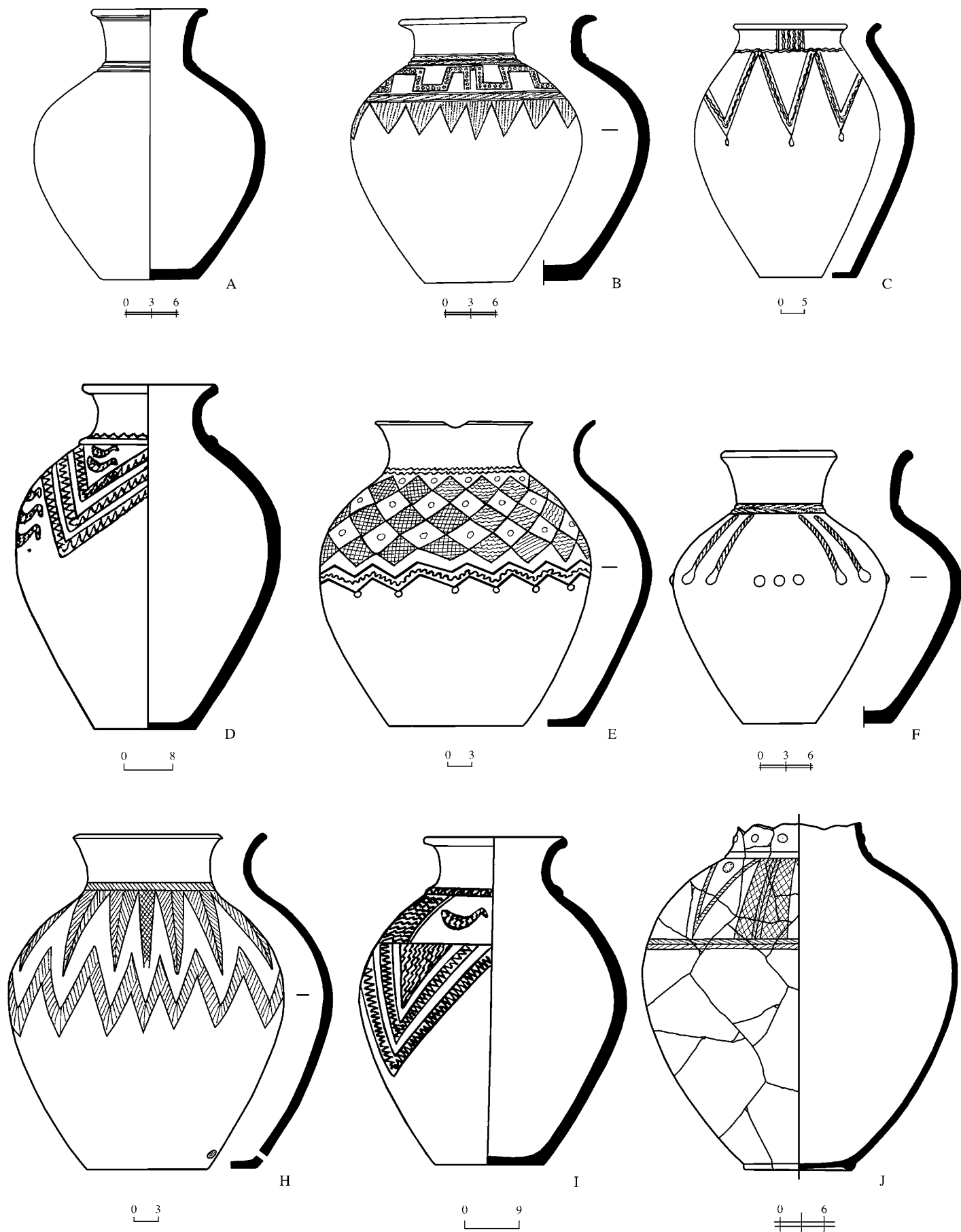


Figure 15. Trialeti-Vanadzor 2 Ceramics:
 (a–b, f) Vanadzor Great Kurgan; (c) Tomb of Noratus; (d, h) Tomb of Artsvaberd; (e, g) Karashamb 48;
 (i) Lori-Berd Tomb 77

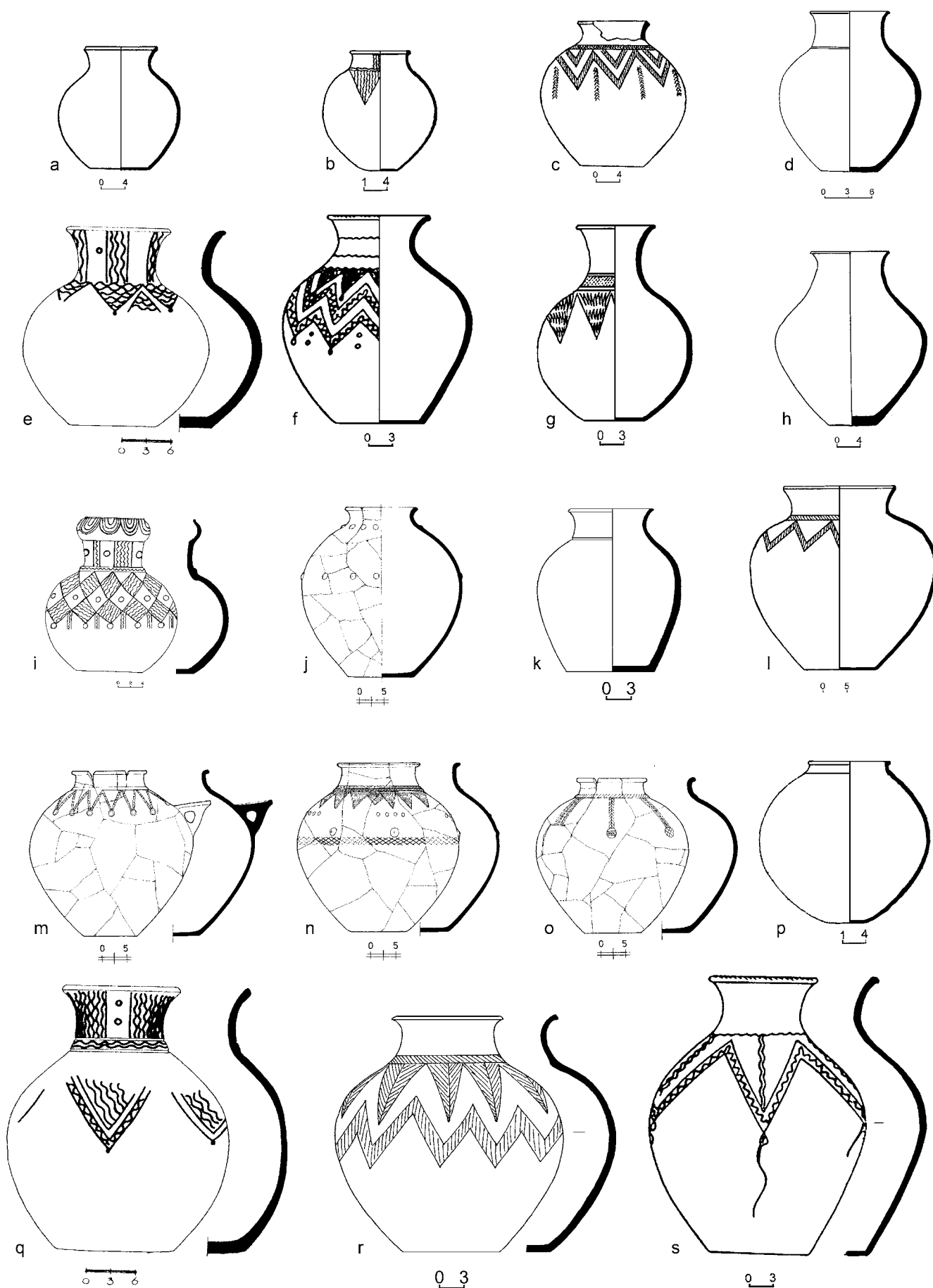


Figure 16. Trialeti-Vanadzor 2 Ceramics:

(a, c, l) Sisian I Tomb 13; (b, p) Etchmiadzin Tomb 1; (d, i) Karashamb Tomb 45a; (e, q) Vanadzor Great Kurgan;
 (f, s) Tomb of Avan; (g) Tomb of Noratus; (h) Karashamb Tomb 5; (j, m, o) Lori-Berd Tomb 77;
 (k, r) Karashamb Tomb 48; (n) Lori-Berd Tomb 79

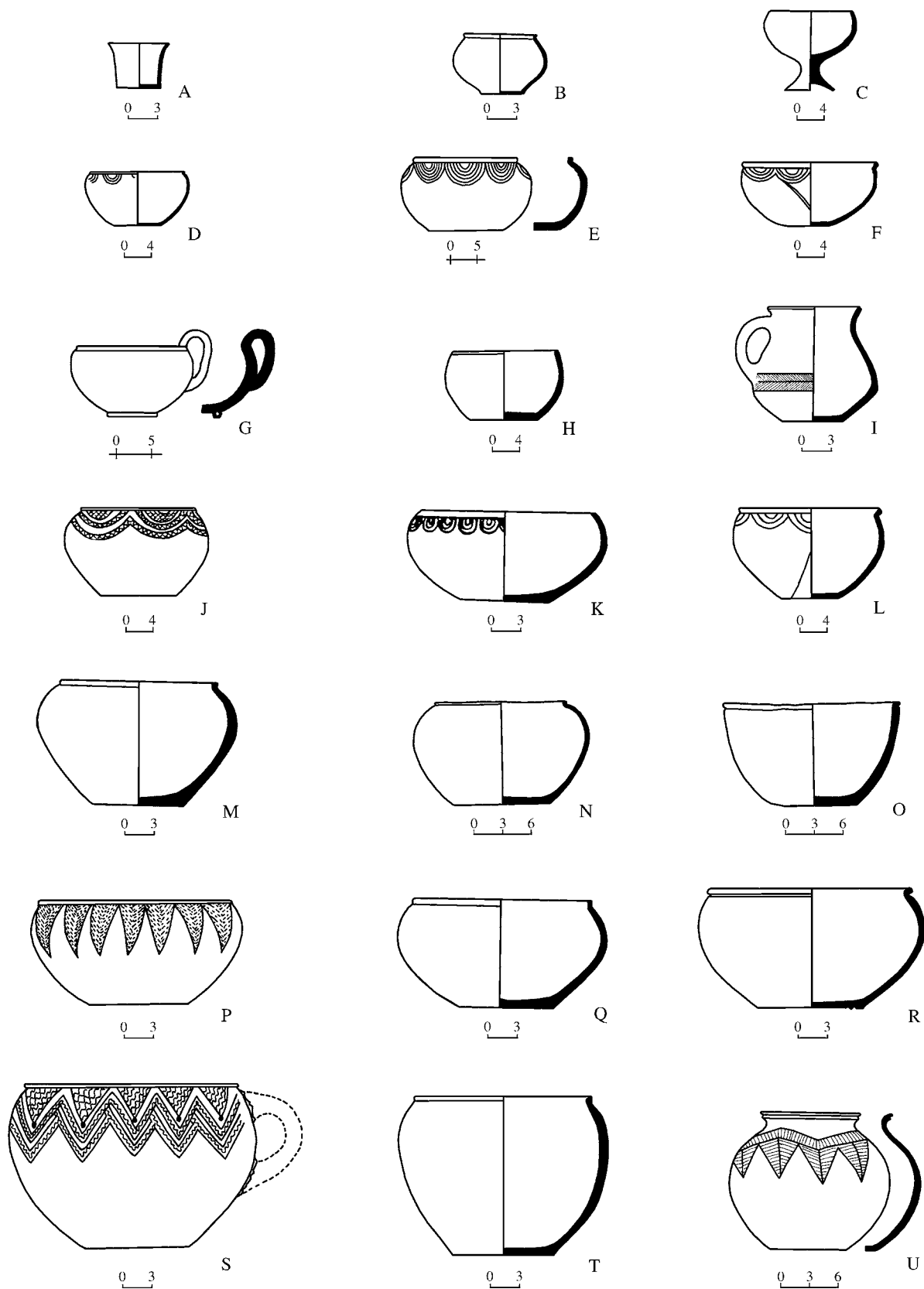


Figure 17. Trialeti-Vanadzor 2 Ceramics:

(a, n-o, u) Karashamb Tomb 45a; (b) Tomb of Noratus; (c, h) Karashamb Tomb 5; (d) Vanadzor Great Kurgan;
 (e, g) Tomb of Voskevaz; (f, l) Etchmiadzin Tomb 1; (i) Tomb of Artsvaber; (j) Aruch Tomb 1;
 (k, m, q) Tomb of Avan; (p, s) Hacarat Tomb 1; (r, t) Karashamb Tomb 48

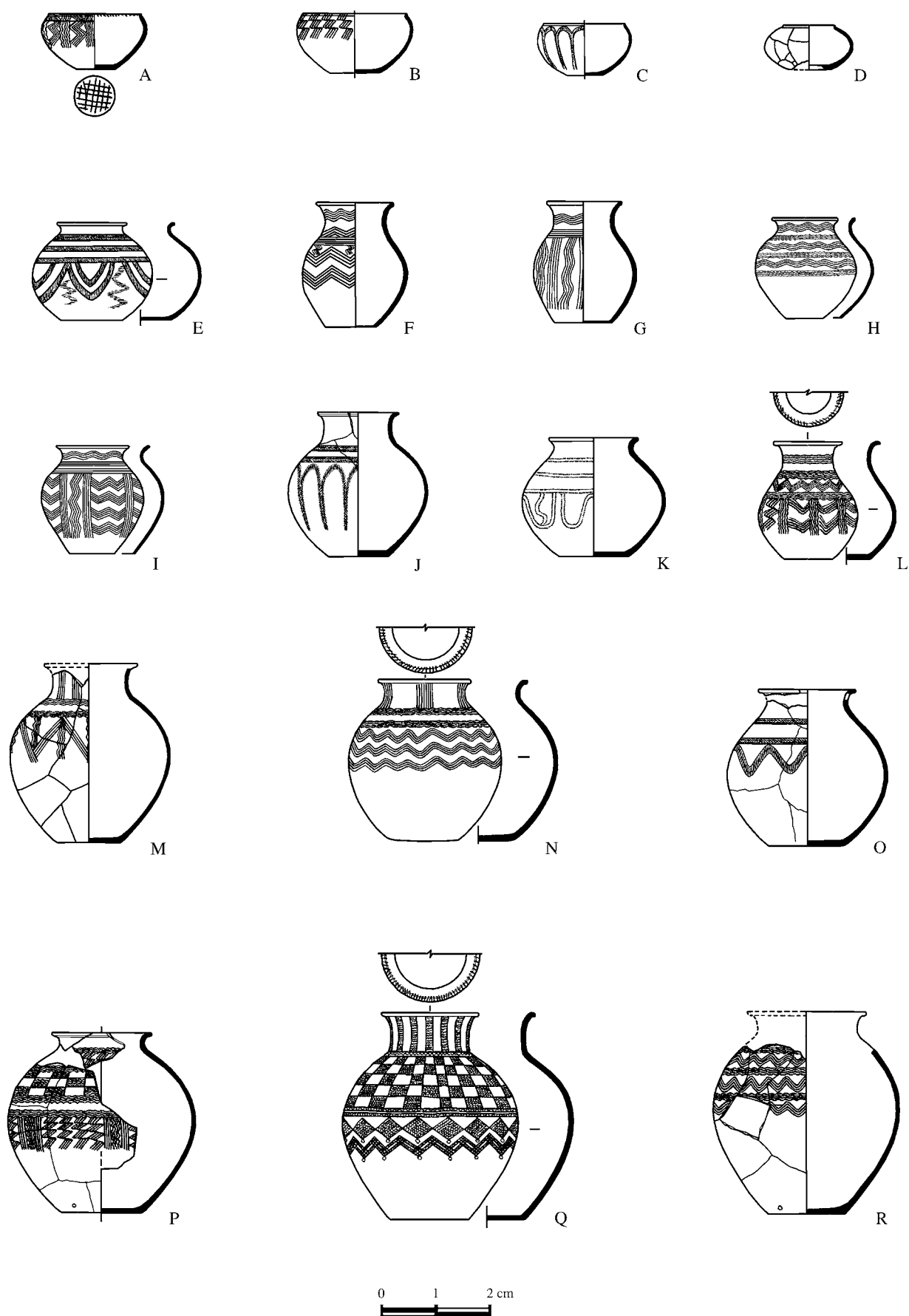


Figure 18. Sevan-Uzerlik 1 Ceramics:

(a, d-e, j-l, n-o, q) Sisian I Tomb 4; (b-c, m, p, r) Sisian I Destroyed Tomb; (f-i) Sisian I Tomb 7

Until recently, Trialeti-Vanadzor complexes from Armenia were traditionally synchronized with the third group from Trialeti which, according to Gogadze (1972), were constructed between the seventeenth and fifteenth centuries B.C.³⁸ (Djaparidze 1994: 92; Puturidze 2003: 113). However, recent re-evaluations of these materials — and their parallels from Haftavan Tepe — suggest that the Trialeti-Vanadzor group is more properly associated with the earlier Trialeti group I and II assemblages. Comparison of radiocarbon determinations from the Trialeti-Vanadzor complexes at Aruch (Bln-2727 and Bln-2801; Kavtaradze 1999: 86), Lori-Berd (Devejyan 2006), Nerkin Naver, Irganchai,³⁹ and Geghakar (Harutyunyan and Badalyan in press) suggest that the Middle Bronze II phase spanned the period from the twenty-second to eighteenth centuries B.C.

KARMIRBERD, KARMIR-VANK, AND SEVAN-UZERLIK GROUPS, AND THE LATE GROUP OF TRIALETI-VANADZOR (MIDDLE BRONZE III)

The Middle Bronze III phase is represented by four major ceramic horizons: Karmirberd, Karmir-Vank, Sevan-Uzerlik 2, and Trialeti-Vanadzor 3. At present, the significance of these related, yet distinct, formal and decorative traditions is not well understood. But it is quite clear that they are contemporary horizons which often overlap geographically and co-occur in numerous assemblages. To what degree these then represent unique sociological groups, or perhaps better, socio-technical approaches to ceramic manufacture, remains to be assessed. We should note again that none of the Middle Bronze III ceramic groups is entirely homogeneous. Avetisyan (2003) has subdivided each into distinct subgroups, but our discussion here is restricted to a discussion of the broader parameters of these complexes.

Karmirberd group pottery includes black and dark gray polished vessels (fig. 20) as well as red unornamented and red-surfaced monochrome and polychrome painted pottery (fig. 21). Black polished wares are typically slipped and ornamented with punctate designs made with either roll or comb tools. Typical ornaments include punctate zigzags, wavy lines, meanders, and concentric hanging arches encircling the base of the neck. Often the vessels are ornamented with one or two belts in raised relief. The painted wares are ornamented with one, two, or three registers of friezes. The ornamental compositions on each vessel are assembled from several primary elements, including vertical and horizontal lozenges (or bow ties), web pattern grids, “labyrinths,” and hanging volutes. Much of the Karmirberd assemblage is comprised of utilitarian wares, poorly fired, with gray or brown coarse surfaces. The vessels of this kind are occasionally ornamented with incised wavy or hatched lines and thumbnail incisions. Diagnostic forms of the Karmirberd complex include:

- 1) Large pots and jars with spherical bodies and cylindrical necks decorated with both painted and black punctate ornaments.
- 2) Smaller pots and jars with spherical or biconical bodies with cylindrical or trumpet-shaped, short necks.
- 3) Bowls include two primary forms:
 - a) Bowls with spherical or biconical bodies and vertical collars.
 - b) Shallow bowls that are elliptical in plan with opposing indentations in the rim (these are often referred to in the literature as “*Indiiskogo orekha*” or “walnut”-shaped vessels).
- 4) Beakers with spherical or inverted cone-shaped bodies.

The Sevan-Uzerlik 2 group is defined primarily by black surfaced vessels with punctate ornamentation (made by “rocker” or rolling stamps) and incised combed designs. Often, the punctate decorations were filled with a white or white-and-red paste. Classic examples of Sevan-Uzerlik 2 pottery come from the second and third levels of Uzerlik Tepe, and the Sevan burials. In the Ararat Plain, Sevan-Uzerlik 2 materials have been found in cemeteries and settlements together with Karmirberd assemblages.

The Sevan-Uzerlik 2 pottery belongs to two large groups: 1) black unornamented or punctate ornamented wares (fig. 22a–h, j–k, r–t); and 2) red painted wares (fig. 22i, l, n–q, u–x). The vessels with black surfaces have a thick slip. As a rule they have polished surfaces. Sevan-Uzerlik 2 black surface vessels decorated with punctate

³⁸ According to Gogadze, the first group of Trialeti (flourishing phase) kurgans were constructed between the twentieth and eighteenth centuries B.C.; complexes of the second group were thus assigned

to the eighteenth to seventeenth centuries, while the third group of kurgans was assigned to the seventeenth–fifteenth centuries B.C.

³⁹ See the Irganchai data in Kavtaradze 1999: 86; Kakhiani et al. 1991: 57–58, tables 135–36; Kakhiani et al. 1995: 66–69, table 100.

designs generally repeat the morphology and ornamentation of Karmirberd ceramics except for the unique vessels with punctate arch motifs. Decorative motifs on the Sevan-Uzerlik 2 red painted wares are distinct from both the Karmirberd and Trialeti-Vanadzor painted pottery traditions. The most distinctive painted designs on Sevan-Uzerlik 2 pottery appear to have been accomplished using a comb technique which yielded motifs that include parallel lines set within interlinked squares or rhombuses.

In terms of morphology, the following dimensions of the Sevan-Uzerlik 2 complex are the most critical:

- 1) Large storage vessels are very rare and primarily belong to the group of red painted wares. Typical for these vessels are globular profiles with raised shoulders, trumpet-shaped necks, and flared rims (fig. 22v, x). For the black polished wares, profiles tend to be more vertically distended with wider orifices and flared rims.
- 2) Jars tend to be stockier with broad, spherical bodies and wide necks or egg-shaped bodies with cylindrical necks. A few examples are known of single-handled jars with similar forms. The handles on these jars tend to be quite massive.
- 3) Pots have spherical bodies with wide orifices.
- 4) Bowls include both spherical and inverted conical bodies. “Walnut”-shaped bowls have also been documented in Sevan-Uzerlik 2 complexes.
- 5) Beakers are dominated by two-handled vessels and vessels with spherical bodies and pedestal bases without handles. The latter repeat the shapes of metal vessels from Trialeti-Vanadzor assemblages.
- 6) Cauldrons also appear in Sevan-Uzerlik 2 assemblages. They have two handles with red and yellow surfaces that imitate bronze cauldrons (fig. 22m).
- 7) Two unusual forms are also known from Sevan-Uzerlik complexes:
 - a) Spool-shaped hollow pot stands.
 - b) Rectangular braziers.

The Sevan-Uzerlik group is best known from assemblages found at Uzerlik Tepe (levels II and III) and Sisian I (tomb 4, destroyed tomb [Avetisyan et al. 2000], and tomb 7 [Xnikikyan 2002]).

The Trialeti-Vanadzor 3 group morphologically repeats the pottery of Trialeti-Vanadzor 2 complexes — only the ornamentation is distinct. The most characteristic features of Trialeti-Vanadzor 3 assemblages are vessels with polished decor and vessels with ornaments created by the removal of polish from a prepared surface. Trialeti-Vanadzor 3 ornamental motifs include complex decorations made from the integration of polish and incised techniques, including hanging or standing triangles, zigzag lines, opposing incised and polished triangles, and punctate triangles with intervening polished ornaments (fig. 19). The most representative Trialeti-Vanadzor 3 (Harich-Treli group) assemblages were excavated at Harich.

Only a few burials of the Middle Bronze III period (e.g., Gavar and Aruch) in Armenia were found to also contain polychrome pottery. In their morphology and ornamentation they repeat Karmirberd, or sometimes Karmir-Vank, wares known from sites in Nakhichevan. As a rule, these vessels have red surfaces decorated with black and white, red and white, or black, white, and gold paint. The motifs include representations of sacral offering tables, concentric rhombuses (each line rendered in a different color), and chevrons, along with anthropomorphic, zoomorphic, and ornithomorphic designs.⁴⁰

Trialeti-Vanadzor 3 complexes appear to be concentrated primarily in the Sevan basin, the Nagorno-Karabakh highlands, and the foothills of the Lesser Caucasus above the Mughan Steppe. This last phase of the Trialeti-Vanadzor complex is represented by the majority of the Harich tombs (nos. 44, 74, 75, 24, 66; Khachatryan 1975) and several complexes from Georgia, including the Treli tombs (nos. 43, 53; Abramishvili 1978: 16–18, figs. 19–23).

⁴⁰ It is important to note the very different traditions of nomenclature in Nakhichevan and in Armenia. In Nakhichevan, all painted wares are classified as Karmir-Vank regardless of form or specifics of decor (hence what are termed Trialeti-Vanadzor or Sevan-Uzerlik traditions in other parts of the region are lumped into the Karmir-Vank group).

In Armenia, the term Karmir-Vank is reserved to designate only those vessels described above. Also important to note is that Karmir-Vank group vessels in Armenia represent the latest Middle Bronze painted pottery tradition as they often have morphological similarities with Late Bronze Age ceramics.

The transition between Middle Bronze II and Middle Bronze III assemblages is most clearly seen at Haftavan Tepe. The lower horizon of Haftavan VIB (“early VIB”) includes unique examples of Trialeti-Vanadzor painted pottery (Edwards 1983: figs. 86, 113, 114, 128). Among the painted pottery of the upper layers (“late VIB”), in contrast, we find ceramics more clearly related to Karmirberd and Karmir-Vank painted pottery. The “late VIB” layers include monochrome and polychrome pottery, typical for Karmir-Vank complexes, alongside vessels with characteristic elements of Karmirberd ornamentation (Edwards 1983: figs. 100–02, 1154, 6, 116). The Haftavan sequence clearly indicates that Karmirberd and Karmir-Vank wares follow Trialeti-Vanadzor complexes. The stratigraphic sequence at Uzerlik Tepe also sheds light on the transition from Middle Bronze II to III. In contrast to the Trialeti-Vanadzor assemblages found in the lowest layer (Uzerlik I) of the settlement, the upper two layers (Uzerlik II–III) included typical examples of Sevan-Uzerlik wares.

Even though the splintering of southern Caucasia’s archaeological assemblages into three primary stylistic groups is the most distinctive feature of the Middle Bronze III phase, it is important to emphasize their regular co-occurrence. In southern Caucasia there are a large number of burials (e.g., Karmirberd, Aruch, Karashamb, Nerkin Getashen, Gavar, Garni, Aigevan) where Karmirberd and Sevan-Uzerlik pottery have been found together with Karmir-Vank polychrome and monochrome vessels.⁴¹ Furthermore, in Armenia the majority of settlement layers and burials with Karmirberd pottery also contain Sevan-Uzerlik vessels (e.g., the Middle Bronze Age layers at Metsamor, Aigevan, Mukhannat-tepe, Shirakavan, and Horom as well as the burial complexes from Karmirberd [burial 1], Verin Naver [burials 4, 9, 12, 22, 31], Karashamb [burials 755, 759, 794], and Harich [burials 29, 50, 108, 111]).

Radiocarbon dates from Oshakan (Kalantaryan, Pilipsoyan, and Melkonyan 2004), Horom (Badaljan et al. 1994), and Geghakar (Harutyunyan and Badalyan in press) suggest that the Middle Bronze III period should be dated from the eighteenth/seventeenth centuries to the last quarter of the sixteenth century B.C.

Middle Bronze III assemblages include fewer examples of bronze-working compared to the preceding phase, suggesting a significant change in either the regional availability of metallurgical resources or the socio-technics of metalworking. When significant quantities of bronze artifacts do appear, they tend to belong to later subgroups of the Middle Bronze III phase, suggesting a resurgence in bronze-working attendant to the radical social transformations that marked the beginning of the Late Bronze Age.

THE LATE BRONZE AGE AND IRON I PERIOD

Despite intensive study, the material parameters for defining the periodization of the Late Bronze and Early Iron Ages (Iron I) remain vague and largely undefined. In detailing the material parameters for a periodization of the Late Bronze and Iron I period we define six distinct phases within a single material tradition known as the Lchashen-Metsamor horizon. These phases are defined based on both the seriation of discrete assemblages and the stratigraphy of multi-component sites.

LCHASHEN-METSAMOR 1 (LATE BRONZE I)

The Lchashen-Metsamor 1 phase is characterized by assemblages with synthetic late Middle Bronze Age and early Late Bronze Age features. Such assemblages are best known from the settlement levels at Shirakavan (although materials have also been found at Tsaghkahovit and Gegharot), as well as burial complexes from Lchashen, Karashamb, Tsaghkalanj, Nerkin Getashen, Harich, Horom, Gegharot Kurgans I, and Irganchai (burial 5), among others.

The transition between the Middle and Late Bronze Age is most clearly represented in two stratigraphically superimposed construction layers at the site of Shirakavan. While the lower layer contained examples of both painted Karmirberd and black Sevan-Uzerlik pottery, the upper layer included a more homogeneous assemblage containing only ceramics with the distinctive punctate ornamentation of the Sevan-Uzerlik tradition. However, except for this continued tradition of punctate decoration, the pottery from Shirakavan’s upper layer is quite distinct morphologically from the shapes of the Middle Bronze III phase.

⁴¹ In some respects, Karmirberd and Karmir-Vank styles are often difficult to distinguish (see, e.g., Khanzadyan 1979: colored figs. 14, 5, pl. 93; Kushnareva 1960: pl. 26; Gevorkyan 1992: table 48.2; Belli and Bahşalıyev 2001: figs. 213, 9, 10, etc.)

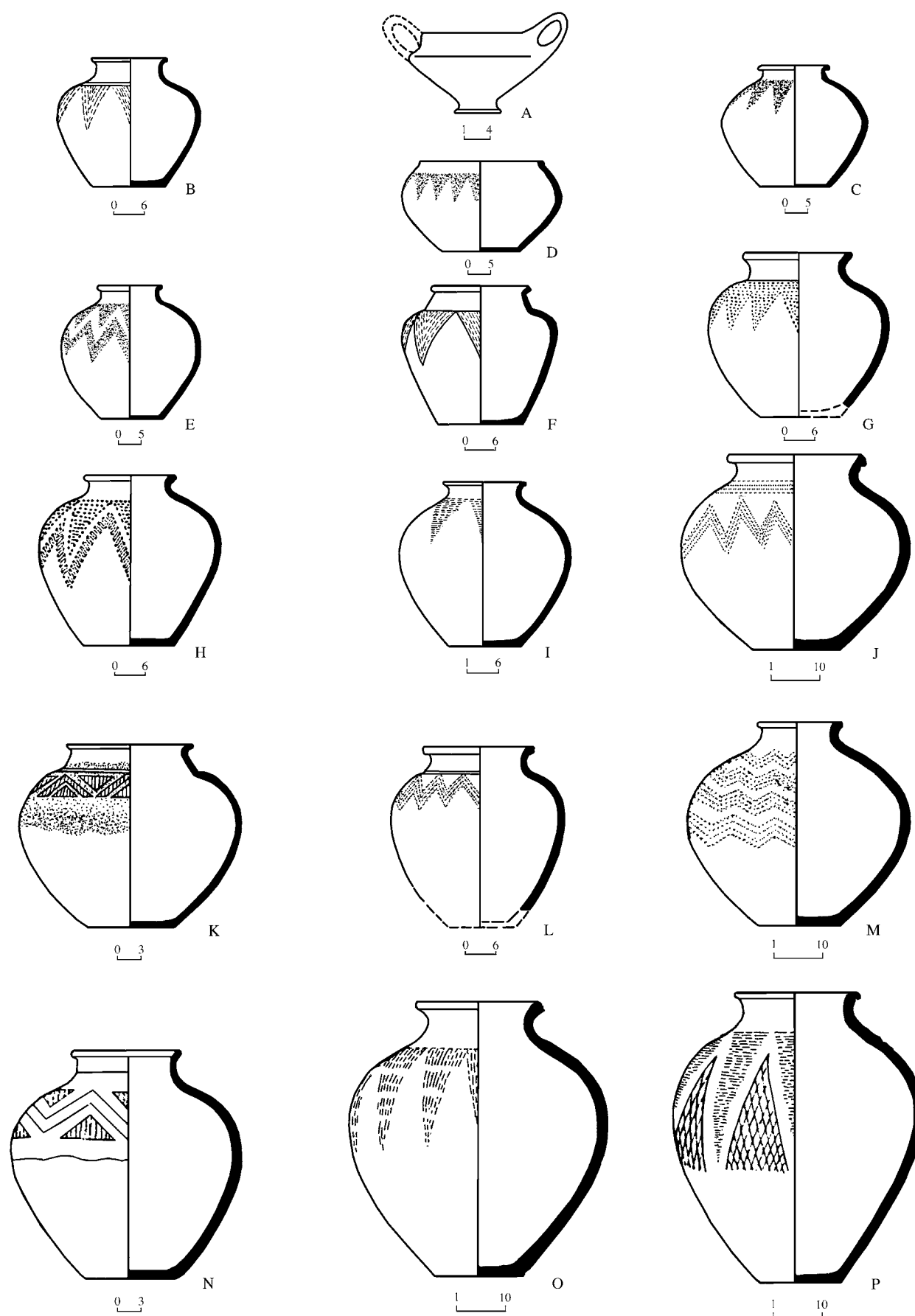


Figure 19. Trialeti-Vanadzor 3 Ceramics:

(a) Harich Tomb 65; (b, f) Harich Tomb 66; (c-e) Harich Tomb 74; (g, l) Harich Tomb 24; (h) Harich Tomb 75;
 (i-j, m, o-p) Harich Tomb 44; (k, n) Verin Naver Tomb 12

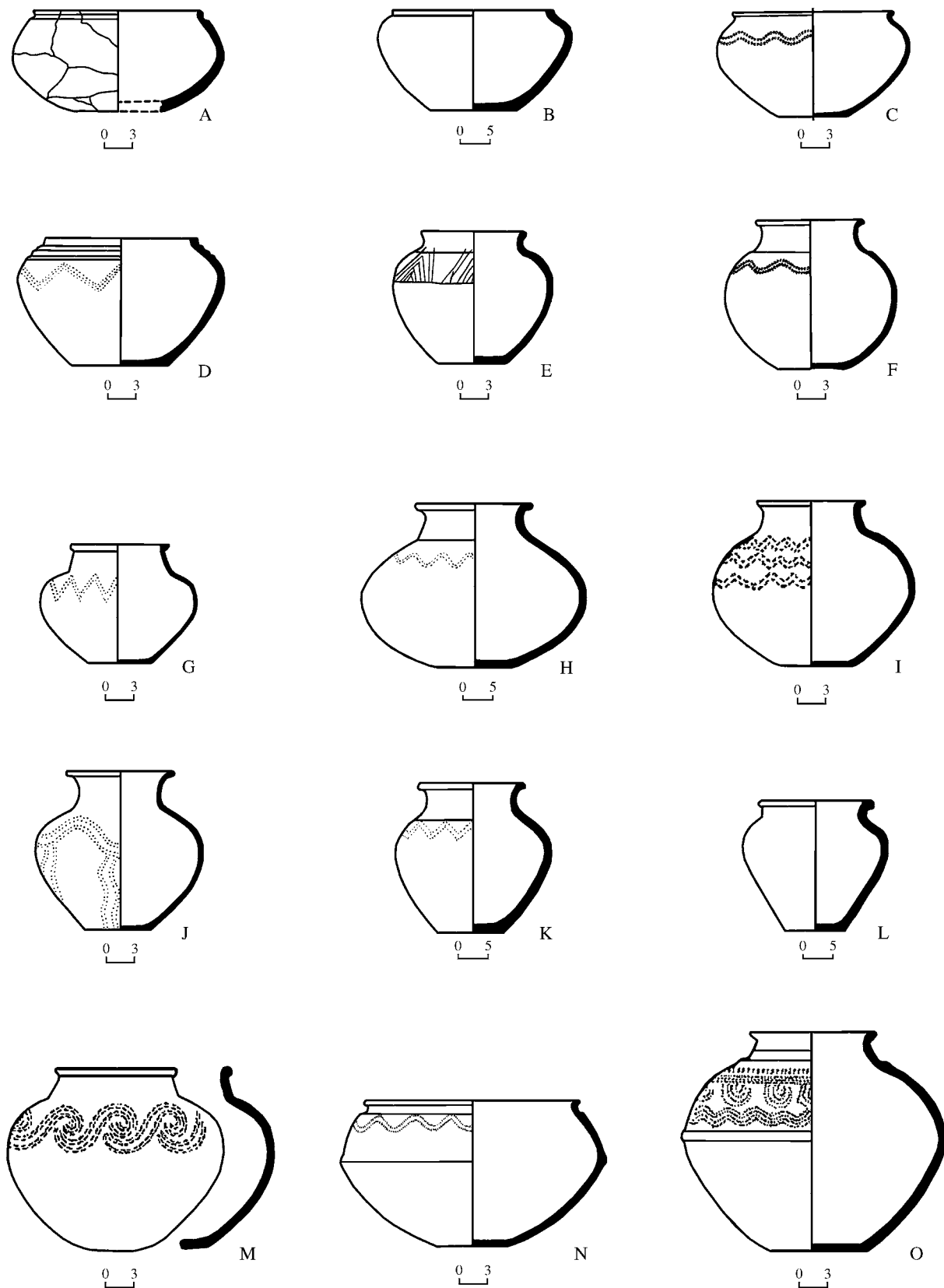


Figure 20. Karmirberd Ceramics:

(a, n) Tsaghkalanj Tomb 39; (b, h, k-l) Harich Tomb 29; (c, f) Mastara Tomb 32; (d) Harich Tomb 10;
 (e) Tsaghkalanj Tomb 6; (g, j) Harich Tomb 13; (i, m, o) Verin Naver Tomb 12

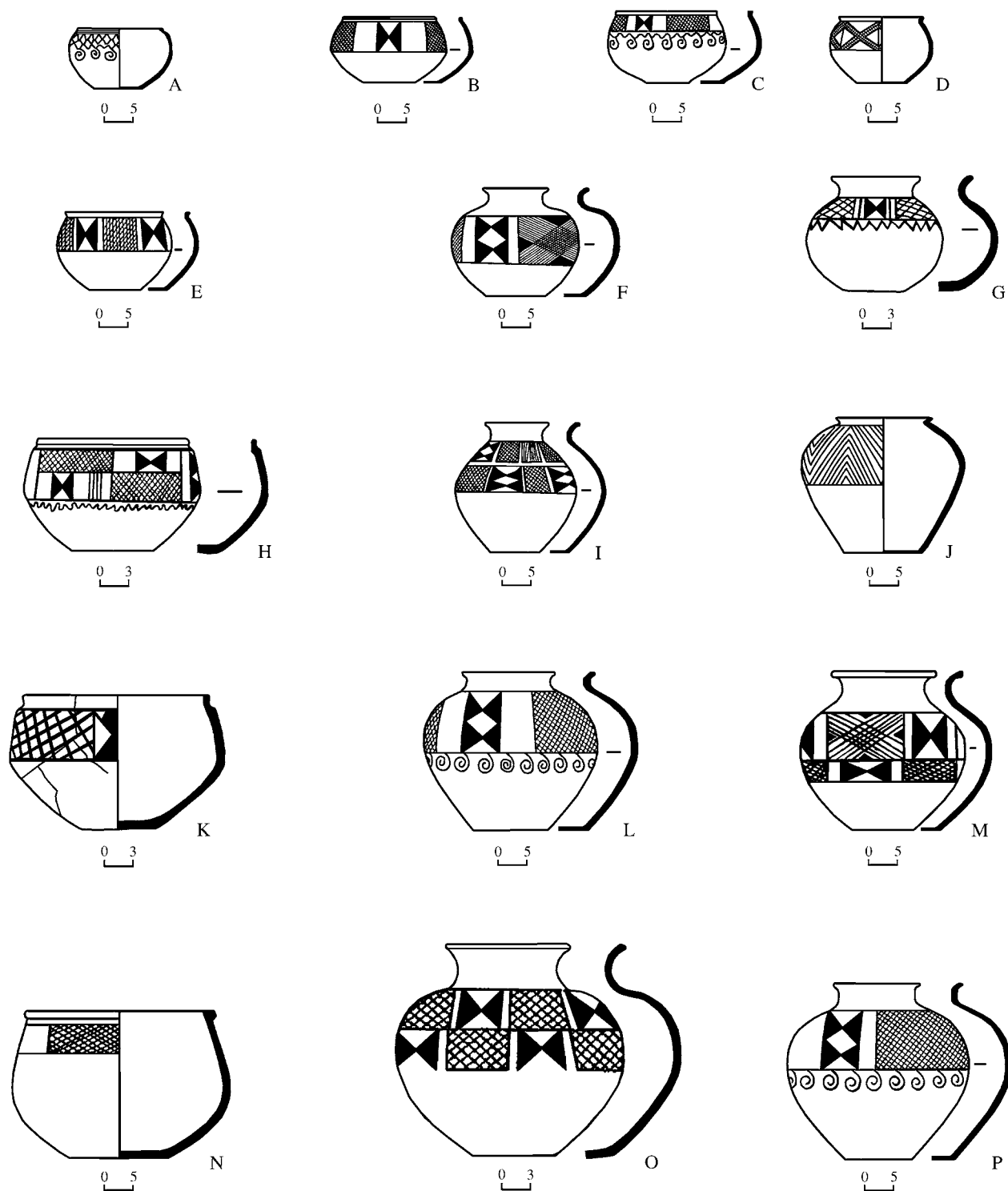


Figure 21. Karmirberd Ceramics:

(a–d, p) Karmirberd Tomb 1; (e, j, l) Karmirberd Tomb 14; (f, i) Karmirberd Tomb 1; (g, k) Tsaghkalanj Tomb 39;
 (h) Tsaghkalanj Tomb 6; (m–n) Harich Tomb 29; (o) Verin Naver Tomb 12

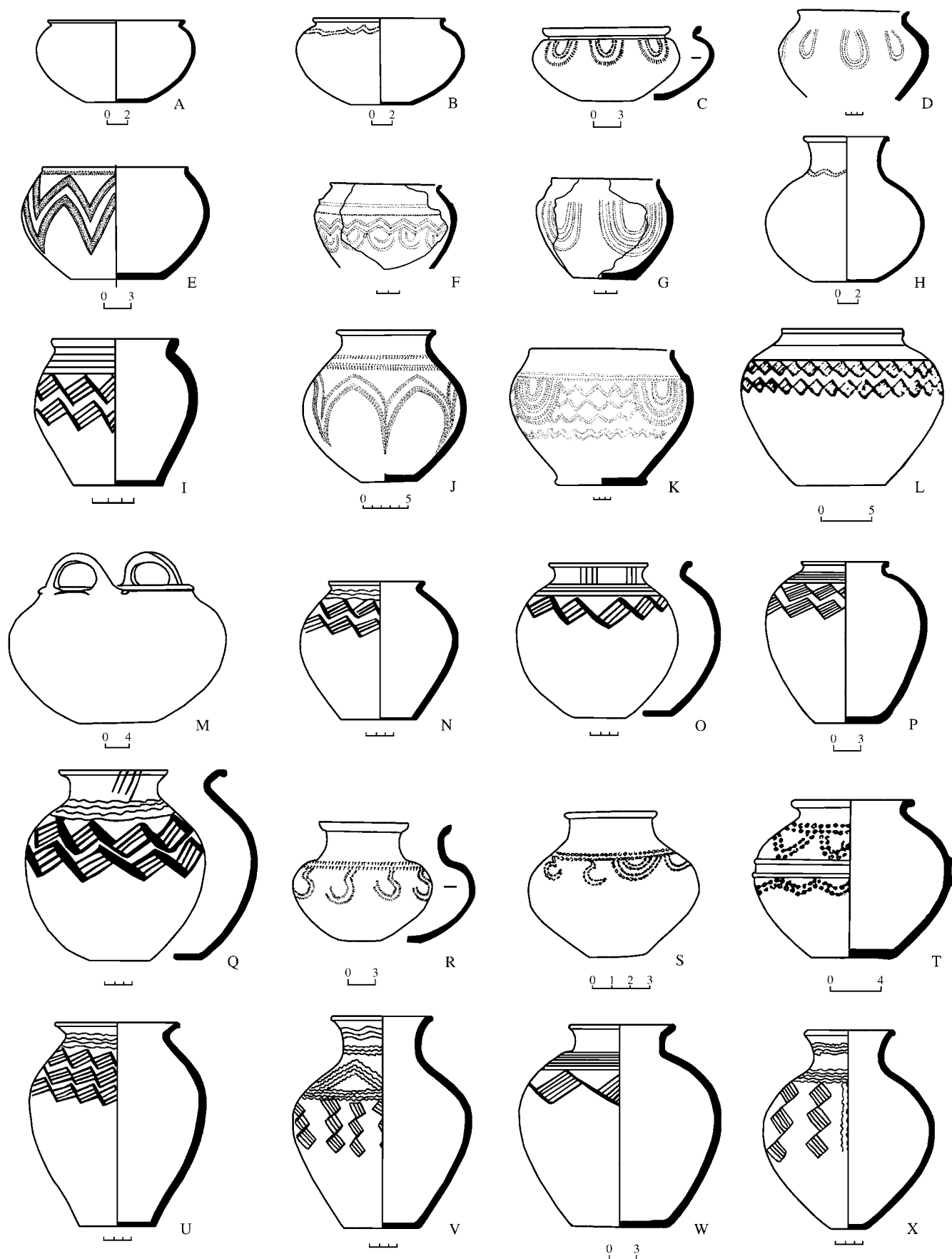


Figure 22. Sevan-Uzerlik 2 Ceramics:

(a–b, h, m) Nerkin Getashen Tomb 21; (c, r) Lchashen Tomb 254; (d, f–g, j–k) Uzerlik Tepe Level II–III; (e) Sisian I Tomb 1; (i, n, u) Lchashen Kurgan 6; (l) Verin Naver Tomb 4; (o, q) Garni Tomb 2; (p, w) Verin Naver Tomb 12; (s) Tomb of Sevanges; (t) Harich Tomb 111; (v, x) Zolakar Tomb 3

The Lchashen-Metsamor 1 ceramic assemblage is characterized by:

- 1) Large storage jars with egg-shaped bodies and raised shoulders decorated with horizontal furrows or lacquer ornaments. Morphologically, these vessels have much in common with Trialeti-Vanadzor 3 jars (fig. 23m–n).
- 2) The corpus of jars includes:
 - a) Large vessels with wide, swollen bodies and cylindrical necks. These vessels are often decorated with wide pressed furrows, lacquer decorations, and white or red paste-encrusted motifs scratched into the surface after firing (figs. 23o, 25m).
 - b) Large vessels with elongated lower bodies, raised shoulders, and cylindrical necks, decorated with horizontal lines and dotted waves. A significant part of this ware group has formal similarities to Karmirberd/Sevan-Uzerlik 2 vessels, although they are quite distinctive in their ornamental repertoire (fig. 23e–i).
 - c) Jars with sharp horizontal shoulders and long, wide necks. These vessels are often decorated with wide furrows at the body-shoulder join (fig. 23a, d).
 - d) Large jars with broad profiles, conical or cylindrical tall necks, and double-relief rolled belts or lacquered ornaments (such as nets, waves, etc.) (fig. 23b).
 - e) Jars with egg-shaped bodies and cylindrical wide necks. These vessels are often decorated with ornamental belts of lacquered nets, lines, or hatchings in addition to motifs that combine dotted waves and linear ornaments (fig. 23h).
- 3) Pots within the Lchashen-Metsamor 1 complex include:
 - a) Large pots with broad profiles and wide orifices or more proportioned bodies and narrower openings. These vessels are generally undecorated. On the relatively few known decorated examples, belts of oblique hatch marks or herringbone decorations predominate.
 - b) Pots with broad, biconic profiles broken by wide pressed furrows along the horizontal axis and either conical or cylindrical necks enclosing relatively narrow orifices (figs. 23c, 25l).
 - c) Pots with elongated lower bodies and short, bulging shoulders capped by short, cylindrical necks (fig. 25i). In general, these wares are undecorated, although a few have simple horizontal line ornaments.
 - d) Medium pots with spherical or slightly elongated bodies, short shoulders, and wide orifices. These vessels tend to be decorated with horizontal lines, thumbnail incisions, or waves (fig. 25j–k).
 - e) Small pots with broad or spherical profiles, short conical or cylindrical necks, and wide open orifices. As a rule, they are decorated with multi-lined relief furrowed ornaments (fig. 25a–b, d).
 - f) Small pots with black exteriors, broad profiles, and wide orifices, typically decorated with lacquered motifs. Red wares decorated with black paint are also known with similar forms (although the ornaments in these cases are typically linear motifs) (fig. 25e–f).
- 4) Small and medium jugs and goblets are also known from Lchashen-Metsamor 1 assemblages. These vessels have broad profiles and tall conical necks and are decorated with dotted triangle, meander, or zigzag motifs (the dots in these ornaments are often encrusted with red or white paint) (fig. 25g).
- 5) Several kinds of basins are also characteristic of Lchashen-Metsamor 1 assemblages:
 - a) Basins with semi-spherical or biconical bodies and “straight standing” rims. In general, they are decorated with two or three belts of wide furrows and dotted waves (fig. 24a–c, e, i, k–l).
 - b) Basins with similar bodies and vertical rims atop flaring shoulders. The horizontal axis is typically decorated with belts in relief while the shoulders boast lacquered ornaments or dotted motifs (fig. 24d, f–h).
 - c) Basins with “walnut”-shaped bodies indented on two sides. Decorations on these vessels tend to repeat those found on other basins (fig. 24j, n–o).
- 6) Prism-shaped “box basins” consisting of one or two sections are also known from Lchashen-Metsamor 1 complexes. As a rule, they have open upper surfaces, long undecorated top and bottom walls, and short side walls with window-like openings (fig. 24m).

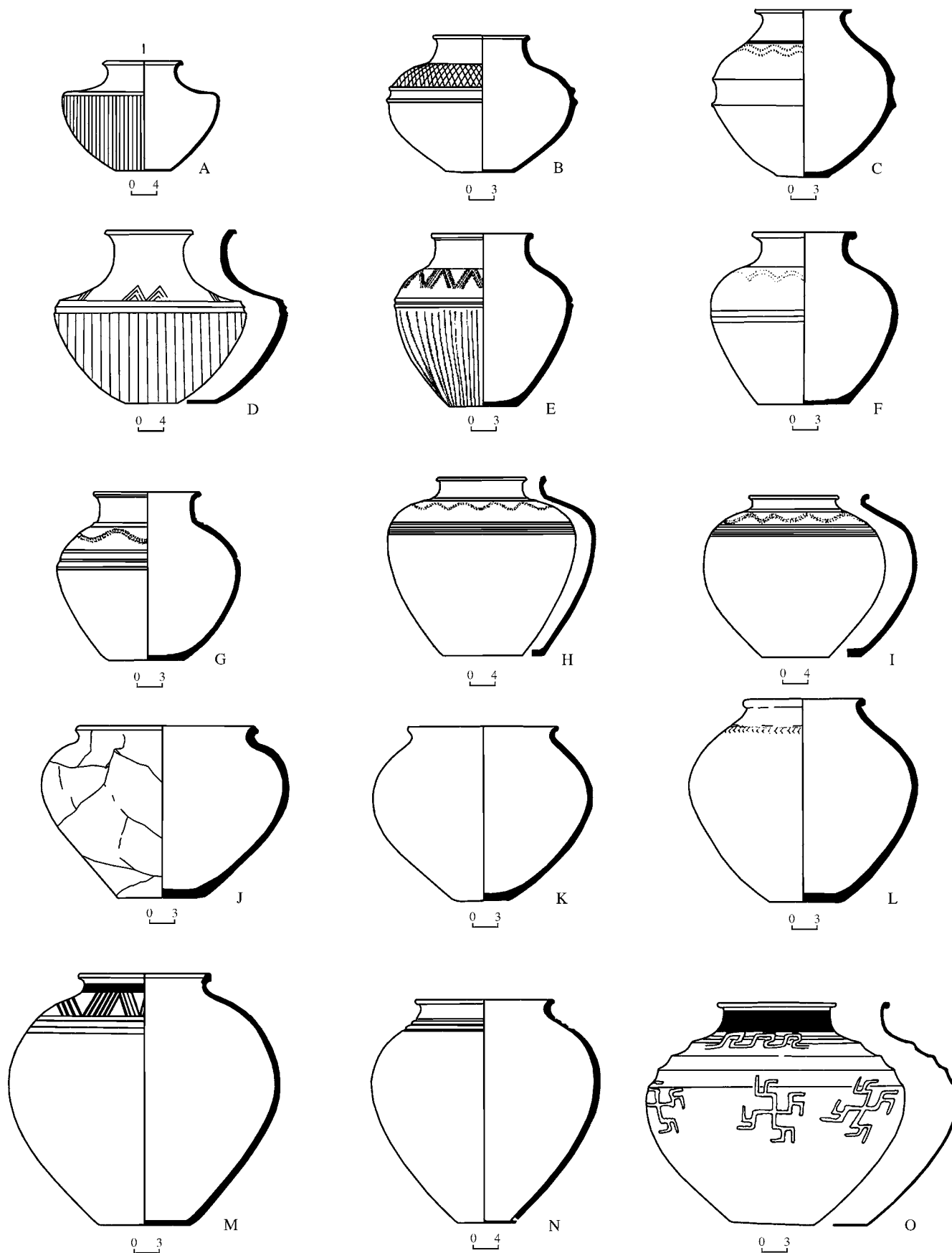


Figure 23. Lchashen-Metsamor 1 Ceramics:

(a, d, n) Aruch/Shamiram Tomb 5; (b) Karashamb Tomb 143; (c) Karashamb Tomb 40; (e, g) Talin Tomb 8;
 (f) Harich Tomb 41; (h-i) Talin Tomb 8; (j) Tsaghkalanj Tomb 9; (k) Aparan II Tomb 5;
 (l) Tsaghkalanj Tomb 12; (m) Karashamb Tomb 77; (o) Karashamb Tomb 46

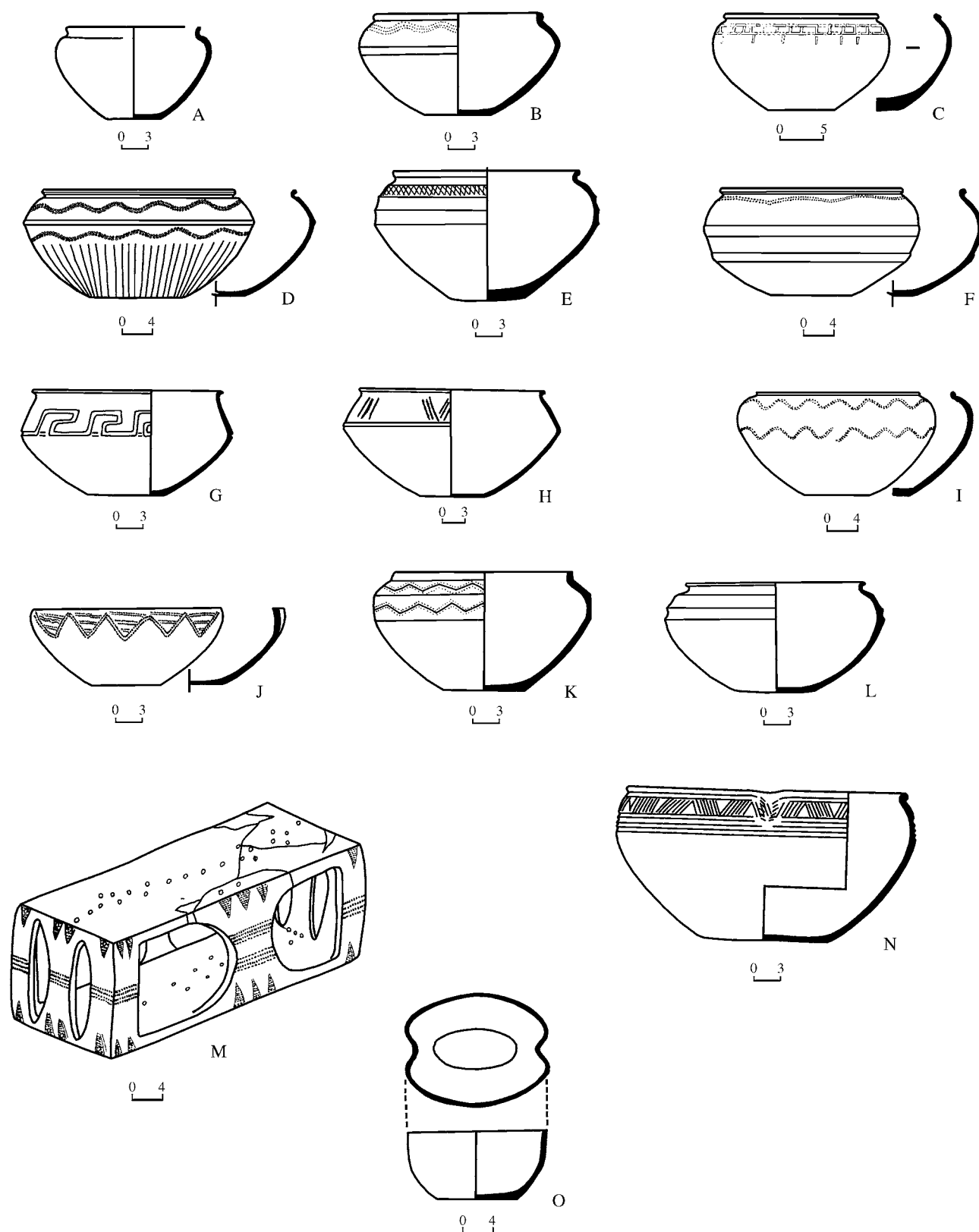


Figure 24. Lchashen-Metsamor 1 Ceramics:

(a) Aparan II Tomb 5; (b, k, o) Harich Tomb 41; (c) Shirakavan Tomb 40; (d, f) Talin Tomb 9; (e, j) Karashamb Tomb 791; (g, n) Karashamb Tomb 46; (h) Karashamb Tomb 135; (i) Talin Tomb 8; (l) Karashamb Tomb 40; (m) Lchashen Tomb 200

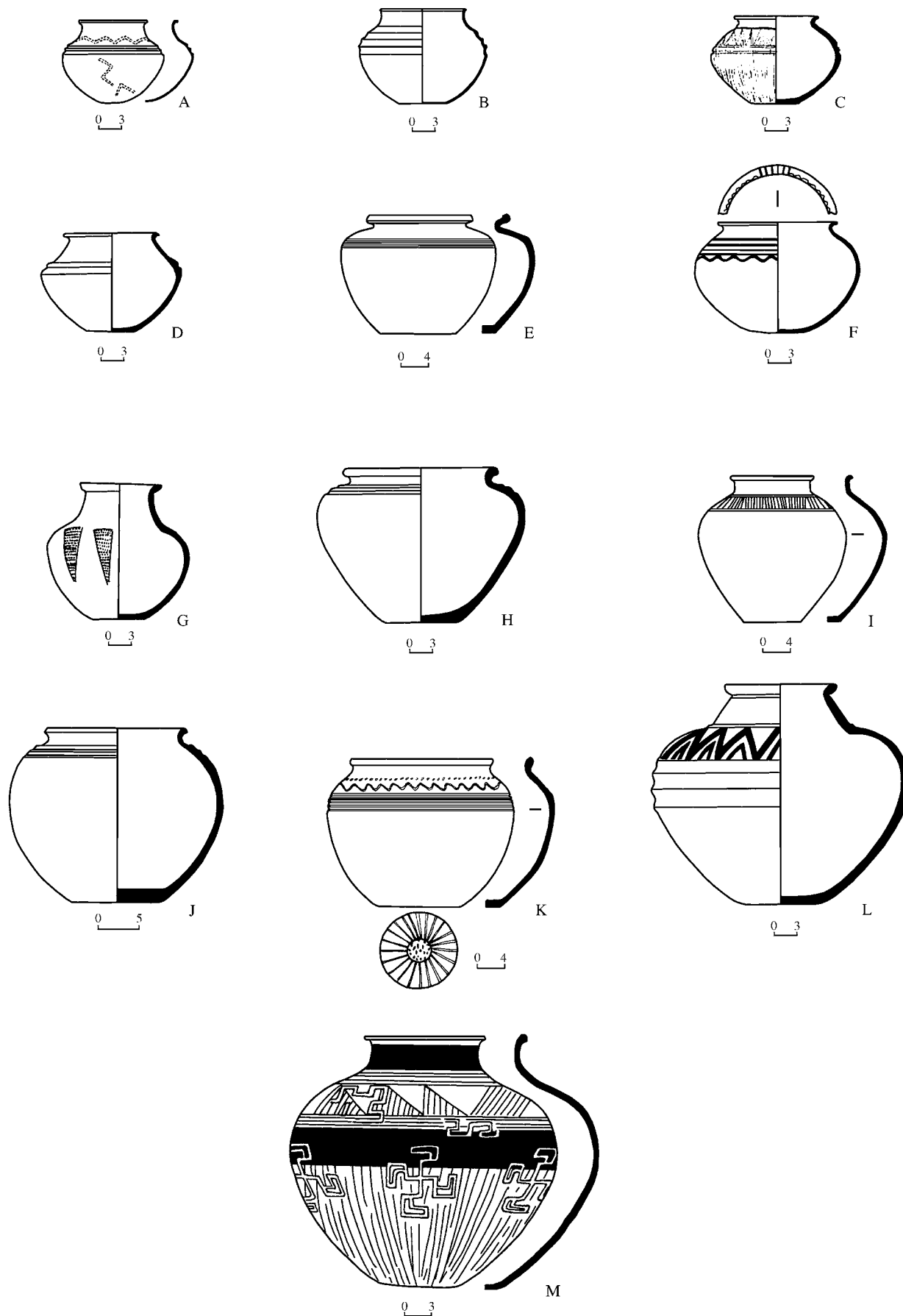


Figure 25. Lchashen-Metsamor 1 Ceramics:

(a–b) Karashamb Tomb 68; (c) Aparan II Tomb 5; (d, f) Karashamb Tomb 40; (e, i, k) Talin Tomb 8; (g) Lchashen Tomb 200; (h, l) Aparan I Destroyed Tomb; (j) Shirakavan Tomb 40; (m) Karashamb Tomb 46

- 7) Goblets are also known in the Lchashen-Metsamor 1 assemblage. These vessels generally repeat the forms and ornamental motifs found on the basins, although goblets have cylindrical or conical elongated stems or legs.
- 8) Censers or incense goblets with spool-shaped or cylindrical hollow legs. Occasionally, the upper parts of these vessels are in the shape of a pot or a basin.

As painted decoration became increasingly rare, new ornamental styles and technologies arose. While black dot ornamented vessels reminiscent of the Sevan-Uzerlik group are still found, the motifs change significantly during the transitional Middle to Late Bronze Age phase. In particular, we now find vessels ornamented with single, double, or multiple incised lines. The vessels are often ornamented with crossed thumbnail-shaped ornament. Some vessels adorned with red or white paste after firing have also been recorded from Lchashen-Metsamor 1 assemblages.

The changes in ceramics during the transition to the Late Bronze Age were also paralleled by significant alterations in the form and manufacture of other artifact categories, particularly metals. Lchashen-Metsamor 1 metals, including bronze statuettes, bronze daggers, and jewelry, related to the transitional period have been recorded at Nerkin Getashen (burial 21), Oshakan, Aruch III, Irganchai (burial 5), the major part of Harich burials, and other sites.

As noted, the transitional period is marked by few radiocarbon dates. However, determinations provided by samples from Lchashen-Metsamor 1 burials at Oshakan and Irganchai suggest that the tombs were built no later than the mid-fifteenth century B.C.

LCHASHEN-METSAMOR 2 (LATE BRONZE II)

The Lchashen-Metsamor 2 assemblage is characterized most notably by materials from the major complexes documented at Lchashen and Artik. Lchashen-Metsamor 2 assemblages include:

- 1) Storage jars with wide rims, tall, wide bodies, and convex shoulders. There are examples with black, gray, brick red, and light rose-colored surfaces. Typically, they are decorated with motifs consisting of incised thumbnail ornaments, horizontal or wavy lines, and twisted belts in relief. The base-body joins of these vessels are also often decorated with oblique lines or thumbnail incisions. As a rule, these vessels have narrow, slightly convex bases (fig. 26m–p; see also Khachatrian 1975: 197, figs. 110–11).
- 2) Jars:
 - a) Narrow-necked jars with wide bodies and convex bases. Usually, the necks of these vessels are decorated with polished vertical lines while their shoulders are decorated with polished or incised linear ornaments. Polished crosses are often found on their narrow bases (fig. 26i–j).
 - b) Wide-necked jars with broad bodies and narrow, convex bases. These small jars sometimes have discoid bases or ring-shaped, slightly outlined bases. The shoulders and necks of these vessels are generally decorated with polished motifs. But there are also examples with circumferential incised or pressed lines, waves, and zigzags. Triangles of pressed wedge-shaped, or “cuneiform,” elements are also characteristic. The vessels of various sizes of this type known from Lchashen and Lori-Berd are decorated with triangles and meanders of dots or depressions (dimples) that are encrusted with white and red paste (so-called Lchashen bi-color wares).⁴² Cross-shaped polished ornaments on the bases are very frequent. There are also ritual jars that repeat the forms of these vessels with table-shaped ledges on the body (fig. 26b, g–h).
 - c) Long-necked jars with broad shoulders and elongated bodies. While most do not have handles, some double-handled examples and churns without handles are known. As a rule, these vessels are decorated with combinations of zigzag, wavy, and multi-lined incised or combed ornaments (figs. 26c, 27n; see also Khachatrian 1975: 193, figs. 97–101).

⁴² Bi-colored encrusted pottery appears during the late Middle Bronze Age and the early Late Bronze I (transitional) complexes and so vessel form is particularly important in distinguishing Lchashen bi-color wares. Lchashen bi-colored encrusted pottery is represented by vessels morphologically typical of Late Bronze Age II assemblages and are

generally found in complexes containing metal artifacts that serve as a further basis for establishing their periodization. It appears that the Late Bronze complexes containing vessels with bi-color decorations constitute the earliest Late Bronze II assemblages.

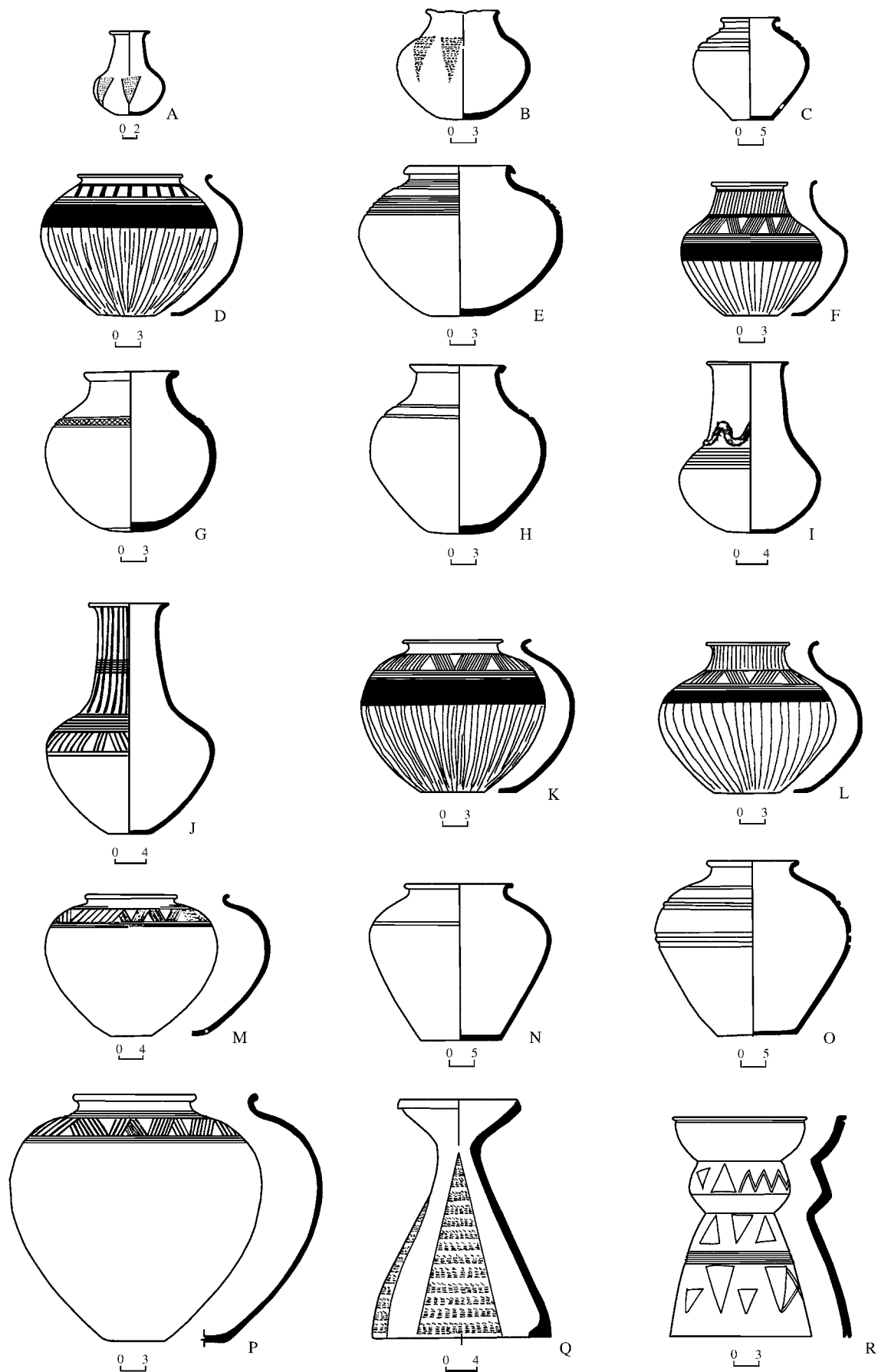


Figure 26. Lchashen-Metsamor 2 Ceramics:

(a, e, g-h, q) Lchashen Tomb 97; (b) Aparan II Tomb 4; (c, n-o) Nerkin Sasnashen Tomb 1; (d, f, k-l, r) Karashamb Tomb 60; (i-j) Karashamb Tomb 117a; (m) Artashavan Tomb 4; (p) Artashavan Tomb 3

3) Pots:

- a) Narrow-necked, wide-rimmed pots with broad bodies. The shoulders are decorated with polished or multiple incised linear ornaments (fig. 26d–e, k).
- b) Wide-rimmed pots with broad bodies and short necks. They have flaring, rounded rims with a pressed furrow to accommodate a lid. Their narrow bases are convex. The shoulders are decorated with combinations of incised thumbnail ornaments, oblique lines, and ribbed line ornaments. Decorations on the edge of the base repeat the incised thumbnail and oblique hatched lines found on the shoulders. Often the bases are decorated with concentric circles (fig. 27c, f, j, l–m, q).
- c) Double-handled pots morphologically repeat the forms of the previous group with the distinctive addition of lacquer ornaments to the decorative repertoire (see Khachatrian 1975: 192, fig. 96).

4) Bowls:

- a) Deep bowls with wide, conical bodies and large, flaring rims. They are typically decorated with incised oblique, wavy, and horizontal lines as well as stamped triangles. The narrow bases are convex, sometimes decorated with cross-shaped polished ornaments. Polished lines are often apparent on the base-body join (fig. 27e, i, p).
- b) Bowls with semi-spherical bodies and flaring massive rims. They are decorated with polished designs and narrow pressed furrows. Multi-rowed horizontal lines, wavy lines, or zigzag decorations are also typical. The bases of these vessels are narrow and convex, sometimes decorated with polished cross-shaped ornaments. Often they are decorated on the base-body join with deeply incised multi-lined furrows (fig. 27b, d, g–h).
- c) Bowls with conical bodies and straight or inverted shoulders. Their rims are straight or “cut.” The narrow bases are convex, sometimes decorated with polished cross-shaped ornaments. Polished double and triple rowed linear ornaments predominate on the shoulders (Khachatrian 1975: 196, fig. 109).

5) Other vessels:

- a) Single-handled goblets with broad profiles and comparatively long and wide necks are also known from Lchashen-Metsamor 2 assemblages. Typically, the handles are twisted. As a rule, the vessels are decorated with incised linear motifs (including waves, multiple concentric lines, and running volutes) but there are also examples with pressed “cuneiform” ornaments or *cannelures* (flutes) (Khachatrian 1975: 227, fig. 141).
- b) Cups and flasks with wide, biconic profiles and long necks. Usually they are undecorated. Some exemplars from Lchashen are decorated with bi-color encrusted dotted triangles (fig. 26a).
- c) Tripod basins are flat, open vessels sitting on three legs (fig. 27k; Khachatrian 1975: 229, fig. 144).
- d) Cauldrons tend to repeat the forms of bronze samples known from various Middle and Late Bronze complexes. Such vessels have also been found in Sevan-Uzerlik and Lchashen-Metsamor 1 burials (fig. 27o).
- e) “Walnut”-shaped bowls of Lchashen-Metsamor 2 assemblages repeat the ornamental repertoire described for bowls above (fig. 27a).⁴³
- f) Prism-shaped ritual “box-basins” consisting of one or two sections. They vary from similar vessels of the preceding period in that window openings are now cut on all sides and the top is closed (fig. 27r).
- g) Goblet-shaped censers from these assemblages have hollow conical legs and funnel-shaped bodies. The ornamental motifs tend to draw broadly from the Late Bronze I and II repertoire. There are also examples with “phallus”-shaped tripartite profiles (fig. 26q–r).
- h) *Keranoi* are also known from Lchashen-Metsamor 2 assemblages. These are vessels with multiple pipes that rise from the shoulder (see Santrot 1996: 102, no. 76).

At present, we have a growing corpus of radiocarbon dates for Lchashen-Metsamor 2 complexes in southern Caucasia, which allows us to date this phase from roughly the mid-fifteenth through the late fourteenth century B.C. It should be noted that Lchashen-Metsamor 2 inventories have also been dated in reference to several imported

⁴³ Although such vessels, as mentioned above, are known from Middle Bronze III contexts, Lchashen-Metsamor 1 bowls of this type are more “basin” shaped while Lchashen-Metsamor 2 samples are more circular in plan, repeating the profiles of generic bowls.

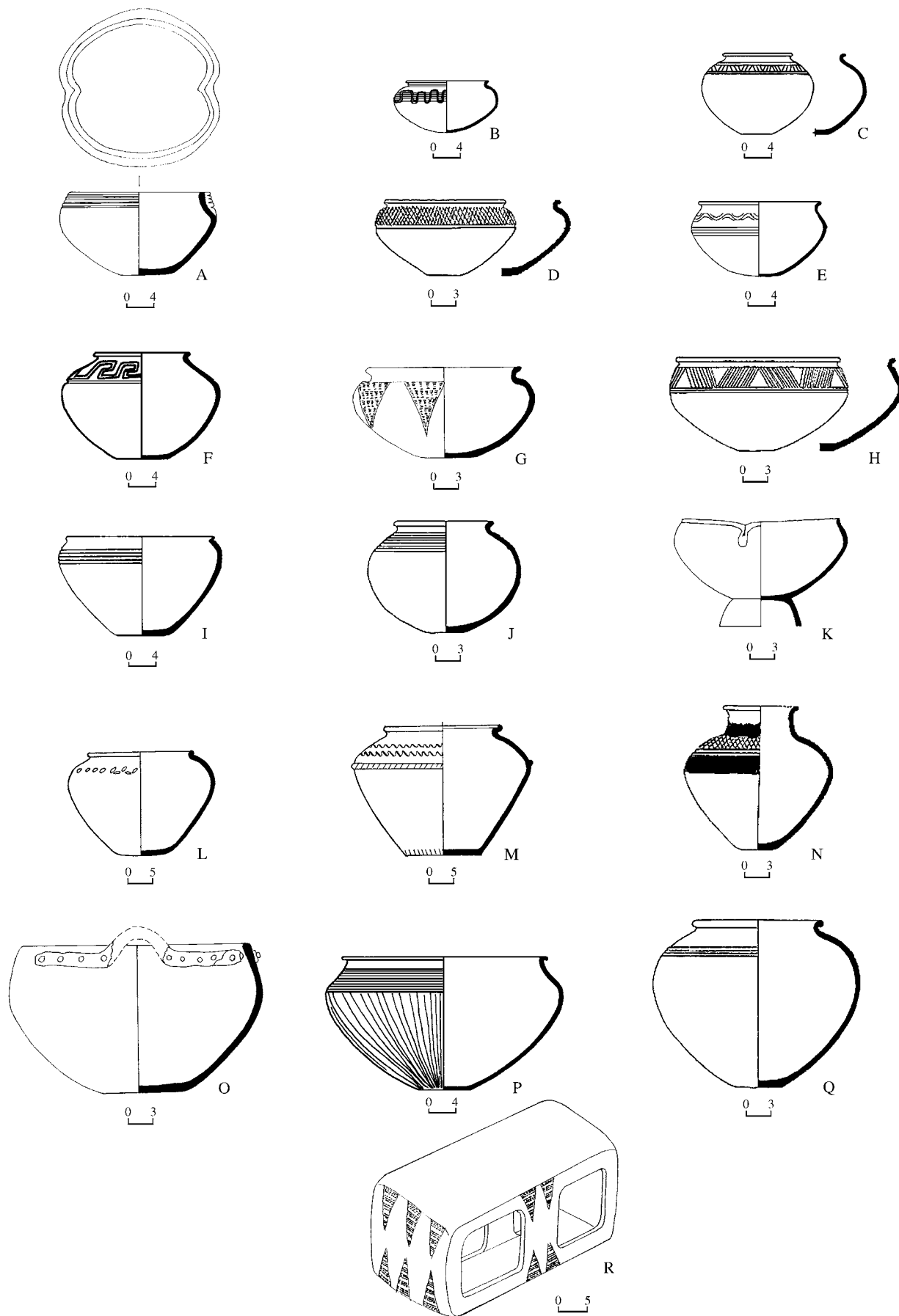


Figure 27. Lchashen-Metsamor 2 Ceramics:

(a, g, o, r) Lchashen Tomb 97; (b, e-f, p) Karashamb Tomb 117a; (c, i) Artashavan Tomb 4; (d, h, n, q) Aparan III Tomb 4; (j) Artashavan Tomb 3; (k) Karashamb Tomb 60; (l-m) Nerkin Sasnashen Tomb 1

finds from southwest Asia. In the 1970s, imported items, such as Mitannian seals (Lchashen burial 97, Artik burials 53, 422, and 625, Lori-Berd burial 7, Shamiram burial 5, Qanagegh burial 2), were used to date several cemeteries. These analyses consistently dated the imported materials to the fifteenth–fourteenth centuries B.C. But, since this period was, at the time, occupied by the Trialeti-Vanadzor complexes (according to Martirosyan’s system), the imports were considered to have reached southern Caucasia through a century or two of secondary exchange (“down-the-line trade” or, more colloquially, “re-gifting”) thus allowing their deposition to be dated to the fourteenth century or later. With the revision of the Late Bronze Age chronology during the 1990s it now appears that imported objects associated with Lchashen-Metsamor 2 complexes arrived through more immediate exchange relationships between southern Caucasia and regions to the south.

LCHASHEN-METSAMOR 3 (LATE BRONZE III)

Bronze artifacts have particular significance in distinguishing Lchashen-Metsamor 3 assemblages. Most notable are the “Sevan-type” daggers and the “Transcaucasian”- or “Vornak”-style swords with rounded or cut tips. In addition, daggers with leaf-shaped blades, knives with curving tips, and hairpins with snake-like midsections, were widespread. Objects made of iron appear in these assemblages as well, while bronze “Lchashen-type” statuettes and horse bits with wheel or disk-shaped ends disappear.

There were also conspicuous changes in ceramic production during this phase. The polished decorations so characteristic of the Lchashen-Metsamor 2 assemblage largely disappear, as do long-necked jars. While Lchashen-Metsamor 3 vessels generally continue the morphologies of the previous period, a few new forms of vessels do appear which either were not found in the preceding phase or were found only rarely. These diagnostic forms include:

- 1) Large storage jars with elongated bodies, short shoulders, and massive rims. They are distinguishable from earlier forms by their relatively wide and flat bases as well as their unique decorative motifs (e.g., waves set between horizontal lines) (fig. 28r).
- 2) Jars:
 - a) One-handled jars with globular bodies and wide necks. The handles are attached either on, or directly below, the rim (see Devejian 2001: figs. 2.17, 4.12, 5.1).
 - b) Jars with biconic profiles and wide, often conical necks. In contrast to similar vessels of the previous phase, these wares have flat bases or are decorated with multi-lined or wavy ornaments, (fig. 28k).
 - c) Long-necked jars with biconic profiles decorated with furrowed belts, wavy ornaments and vertical *cannelures* (fig. 28g, i, l).
- 3) Pots:
 - a) Pots with spherical bodies and no necks (fig. 28m).
 - b) Small pots with wide, biconic profiles (fig. 28f).
 - c) Wide-rimmed pots with broad profiles and short necks. As a rule the shoulders of these vessels are decorated with combinations of horizontal lines, waves, and thumbnail ornaments. The edges of flat bases are also decorated with thumbnail ornaments and oblique lines (fig. 28n, p).
 - d) Pots with broad profiles and flat lugs on the shoulders (fig. 28j, o).
- 4) Bowls:
 - a) Bowls with conical bodies, straight shoulders, flat rims, and decorative knobs. The rims are decorated with wave designs made with a comb tool (fig. 28d).
 - b) Deep bowls with biconical bodies decorated with multiple incised circumferential lines or pressed furrow ornaments. Some examples are also decorated with vertical *cannelures* (fig. 28a–c, e).
- 5) Biconical “goblets” without handles (fig. 28h).
- 6) Handleless churns with tall, elongated bodies and short, cylindrical necks. As a rule, these vessels are decorated with linear and wavy ornaments (fig. 28q).

With the disappearance of polished ornaments, decoration emphasizes incised horizontal lines, two or three rows of combed wavy lines, pressed *cannelures*, and stamped concentric rings.

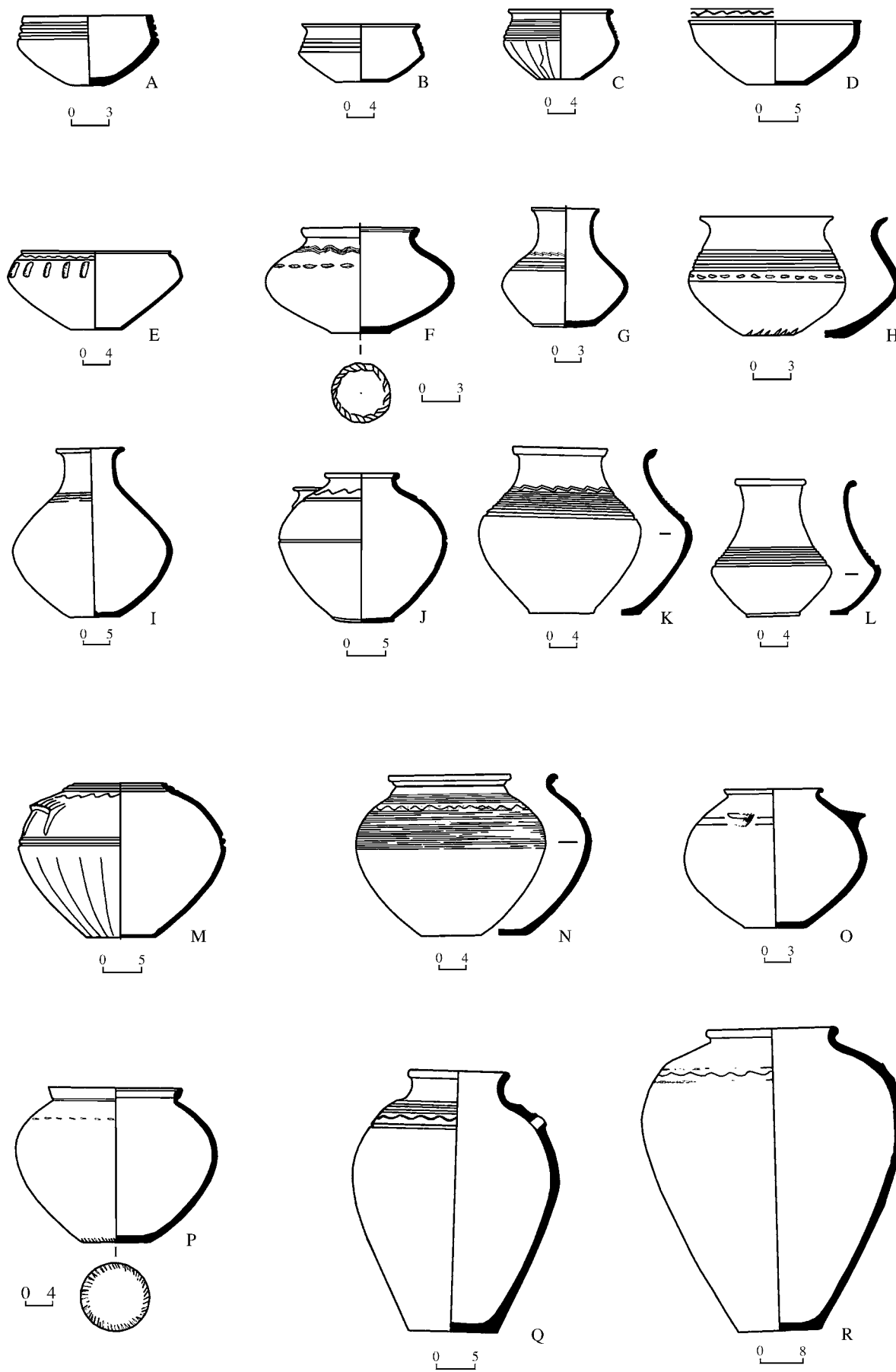


Figure 28. Lchashen-Metsamor 3 Ceramics:

(a, l) Mastara Tomb 28; (b–d, j, m) Stepanavan Tomb 16; (e) Stepanavan Tomb 12; (f–g) Mastara Tomb 7; (h, k) Mastara Tomb 27; (i) Oshakan Tomb 100; (n, p) Oshakan Tomb 88; (q) Oshakan Tomb 96; (r) Oshakan Tomb 95

No settlements have been excavated in southern Caucasia with levels composed exclusively of Lchashen-Metsamor 3 assemblages (perhaps indicative of the brevity of this phase). However, excavated burial complexes indicate key changes in material culture which distinguish these assemblages from their antecedents and successors. Burials with materials characteristic for the Late Bronze III phase were excavated in Shirakavan (Torosyan, Khnkikyan, and Petrosyan 2002: figs. 20, 31 [#1–2, 7–10], 32a, 43), Stepanavan (Devejyan 2001: tables 1–10), and the kurgan at Talin (Badalyan and Avetisyan 2007: 250).

Traditionally, the beginning of the Iron Age in southern Caucasia is dated to the second half of the twelfth century B.C. As a result, the mid-thirteenth to mid-twelfth century is generally regarded as the last stage of the Late Bronze Age. The Late Bronze III phase yielded gradually to a transitional period marked most notably by the initial appearance of iron objects. However, the introduction of iron does not appear to have been a particularly revolutionary moment in the socio-technical life of the South Caucasus insofar as the Lchashen-Metsamor horizon continued throughout the Iron I period, developing upon the formal and decorative repertoires introduced at the beginning of the Late Bronze Age.

LCHASHEN-METSAMOR 4 (IRON IA)⁴⁴

Lchashen-Metsamor 4 and 5 assemblages are distinguished by a number of key material features. The most conspicuous transformation attendant to the Iron I period is the increased prominence of iron tools and weapons. Among the artifacts found in sizable quantities are bimetallic Sevan-style daggers (iron blade, bronze scabbard and pommel), iron spearheads and knives, bronze-headed scepters, bronze barbed arrowheads, bar-shaped horse bits with ring-shaped ends, iron swords with framed handles and fan-shaped heads, bronze notched bracelets, and both decorated and undecorated bronze belts.

The ceramic repertoire also presents substantial overall morphological changes. In morphological terms, the vessels show a greater degree of symmetry in their profiles. Fine wares are generally lacquered and polished while tablewares are lacquered with matte to glossy surfaces. Kitchenwares have unpolished surfaces and are often ash covered. Vessels with black, gray, brown, and yellowish surfaces are most typical. Instead of the convex and proportionally narrow bases of the Late Bronze Age, the bases of the Iron Ia period are flat and substantially wider. In terms of ornamentation, belts of pressed furrows, waves, *cannelures*, and ascending or descending triangles filled with waves and oblique lines are quite typical. Vessels with decorations in relief (e.g., anthropomorphic images, bull heads, snakes, goats, lions) become widespread. Instead of flat surfaced, straight handles which join to the shoulder and the rim, arched and saddle-shaped lugs of various shapes predominate, attached to either the shoulder or rim.

One peculiarity of the Lchashen-Metsamor 4 assemblage is that it is dominated by replicas of Late Bronze Age vessels. The following pottery types should be mentioned:

- 1) Large storage jars with wide profiles, flat bases, no (or very short) necks, and narrow rims. They are generally decorated with multi-line horizontal furrows or wavy lines (fig. 29j–l, n–o).
- 2) Jars:
 - a) Double-handled jars with flat bases, wide profiles, and short cylindrical or conical necks. As a rule, they are decorated with multi-line or wavy line ornaments (fig. 29m).
 - b) Jars with flat bases, broad profiles, and comparatively long, wide necks. Wavy ornaments enclosed in furrowed belts are characteristic of these vessels (fig. 29g).
 - c) Jars with flat bases, broad biconical bodies, and tall, wide necks. Vessels are characteristically decorated with oblique lines, triangles incised with waves or *cannelures* (fig. 29h).
 - d) Jars with discoid bases, wide profiles, and elongated funnel-shaped necks. Occasionally, the necks of these vessels are completely covered with decorative belts in relief (see Devejyan 1981: table 20:1–3).

⁴⁴ Iron Ia is equivalent to Early Iron Age I in the traditional periodization.

3) Pots:

- a) Pots with flat bases, wide bodies, and short, relatively open necks. They are usually decorated with incised oblique lines that repeat the polished ornaments typical of the Late Bronze Age (figs. 29c, 30m).
- b) Pots without necks, with spherical bodies and inverted rims. As a rule, these vessels are also decorated with incised oblique line motifs that repeat the polished ornaments of the Late Bronze Age (fig. 30p).
- c) Pots with flat bases, broad biconical or pear-shaped profiles and relatively narrow rims. Fluted belts (*cannelures*) are characteristic ornaments on these vessels (fig. 29e, i).

4) Bowls:

- a) Bowls with flat, or occasionally convex, bases, biconic profiles and inverted rims. Ornaments of wide pressed furrows on the shoulders are most typical (fig. 30d–g, l, o, r).
- b) Bowls with wide, flat bases, conical lower bodies, and “flaring” shoulders. Decorations of deeply pressed circumferential furrows are characteristic for these vessels (fig. 30h–i).
- c) Bowls with flat bases, biconic profiles, and “cut” rims. Wide circumferential belts of pressed furrows are typical for these vessels (fig. 30a–c, n).

5) Cups and goblets:

- a) Single-handled cups with flat bases, wide profiles, and short, relatively wide necks. They are also decorated with incised oblique line motifs that repeat the polished ornament typical for the Late Bronze Age (fig. 29b; see also Petrosyan 1989: table 57:2).
- b) Single-handled goblets with flat bases, wide biconic profiles, and conical necks. Vertical flutes and horizontal furrows are characteristic of the ornamental repertoire (fig. 29d, f).
- c) Cups with elongated pear-shaped or “cylindrical” bodies (fig. 30k, q).

6) Other vessels:

- a) Double-handled, wide-rimmed pans with hollow, cylindrical bases. These vessels usually have furrowed handles (see Devejian 1981: table 20:5, 7).
- b) Teapot-shaped vessels with flat bases, broad profiles, short, relatively wide necks and lug handles. These vessels are also decorated with incised oblique line motifs that repeat the polished ornaments of the Late Bronze Age (see Martirosyan 1964: fig. 28a).
- c) Beakers with wide, flat bases, spherical bodies, narrow, cylindrical short necks, and “cut” rims. They are generally undecorated, although there are also samples with dimple or linear decorations (fig. 29a).
- d) Beakers with flat bases, biconic profiles, cylindrical, relatively long necks, and flaring rims. Furrow-belt decorations are characteristic (fig. 30j).

Lchashen-Metsamor 4 assemblages are best known from Metsamor (tomb 6, lower burial), Talin (nos. 62–65, 70, 73, 75), Mastara (tombs 10, 20, 21, 24, 38, 39), Redkin-Lager (tombs 1–7), and Oshakan (tombs 96, 100, 103, 105, 107, 108).⁴⁵ Importantly, the kurgan excavated at Talin revealed a transitional assemblage composed of materials diagnostic of both Lchashen-Metsamor 3 and 4 assemblages.

The dating of the transitional phase between the Late Bronze and Iron Ages conventionally extends from the mid-twelfth century to the late eleventh century B.C. Few radiocarbon dates provide a foundation for a more refined chronology at the present time.

⁴⁵ Metsamor: Khanzadyan, Mkrtchian, and Parsamian 1973: 171, figs. 162–65. Talin: Avetisyan and Avetisyan 2006: 39–41, tables 42–45, 48, 50–51. Mastara: unpublished excavations of P. Avetisyan. Redkin-

Lager: Esaian and Oganessian 1969: 96–99, tables 3–14. Oshakan: Esaian and Kalantaryan 1988: tables 18 (2, 5–11), 105 (1–7), 107 (1, 4) 108 (12–15), 109.

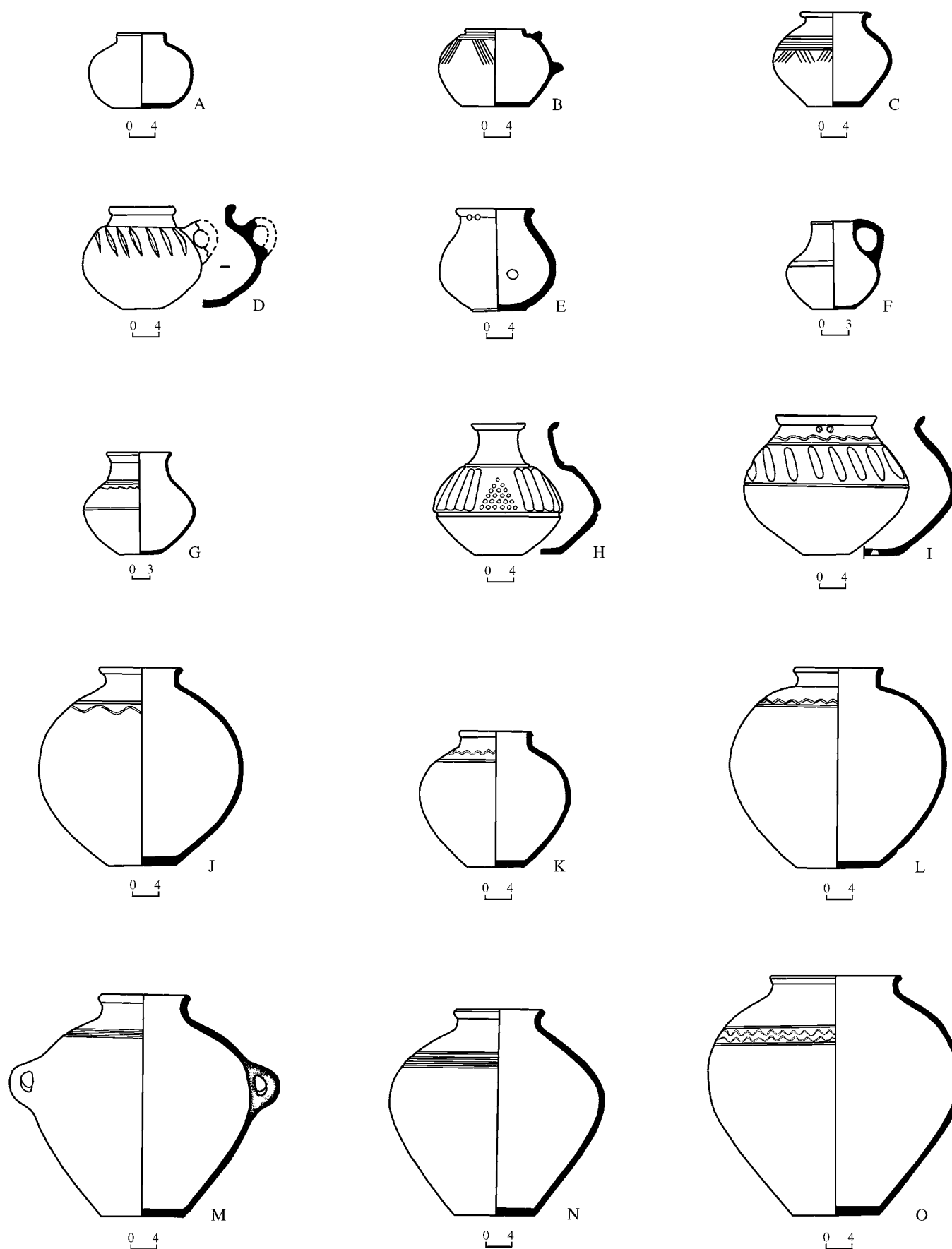


Figure 29. Lchashen-Metsamor 4 Ceramics:

(a, j–k, o) Mastara Tomb 24; (b) Mastara Tomb 20; (c) Mastara Tomb 10; (d) Talin Tomb 71; (e) Talin Tomb 58;
 (f) Mastara Tomb 39; (g) Mastara Tomb 38; (h) Talin Tomb 57; (i) Talin Tomb 62; (l) Mastara Tomb 21;
 (m–n) Mastara Tomb 5

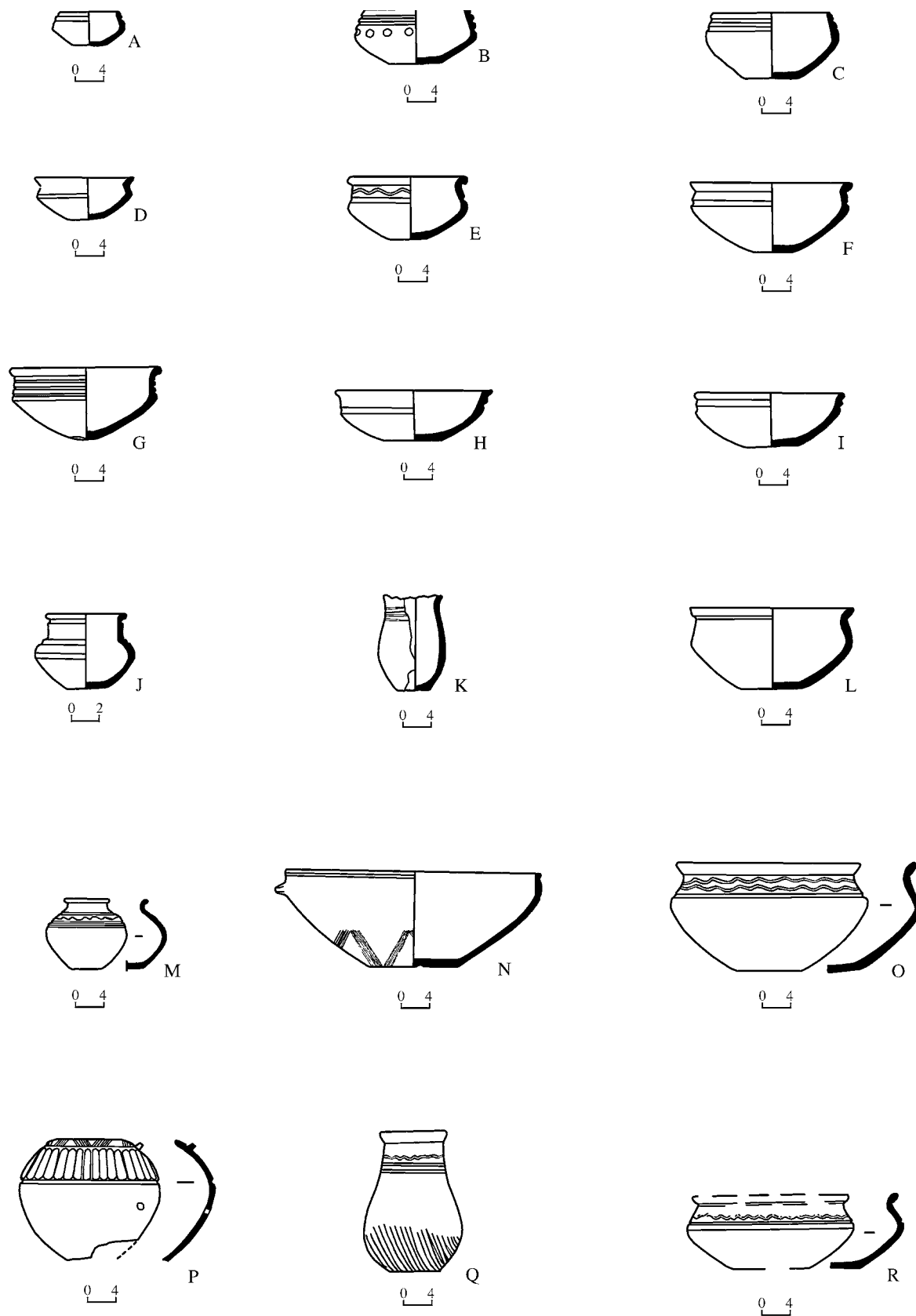


Figure 30. Lchashen-Metsamor 4 Ceramics:

(a, f, i) Talin Tomb 57; (b, l) Talin Tomb 60; (c, g) Talin Tomb 58; (d-e, h, o) Talin Tomb 71; (j-k) Talin Tomb 62;
 (m, p) Talin Tomb 70; (n) Mastara Tomb 5; (q-r) Talin Tomb 73

LCHASHEN-METSAMOR 5 (IRON IB)⁴⁶

As noted previously, Lchashen-Metsamor 5 assemblages have been most prominently defined in relation to destroyed settlement levels attributable to the Urartian invasions of the early eighth century B.C. These sites include Dvin (burnt level), Metsamor (second and third burnt levels of the Late Bronze/Iron 1 horizon), Karmir-Blur (second burnt level), Shirakavan, Karmirberd, Horom, Talin, and Oshakan.⁴⁷

The Lchashen-Metsamor 5 group is most conspicuously represented by the following distinctive ceramic vessels:

- 1) Large storage jars:
 - a) Large jars (0.8–1.5 m high) with relatively narrow bases, wide profiles, and flaring, massive rims. They tend to be decorated with relief belts enclosing zoomorphic, anthropomorphic, and astral motifs as well as incised linear ornaments. Lug handles are often found on one shoulder of the vessel with table or saddle-shaped ledges on the opposing side (fig. 31j–k).
 - b) Wide-rimmed storage jars with flat bases, squat or biconical bodies, and short necks. Bucrania ornaments and vertical pressed flutes (*cannelures*) are characteristic for these vessels (fig. 31g).
 - c) Storage jars with flat bases, broad, biconic profiles, and both wide and narrow rims. Their shoulders are often supplied with a single lug handle. Some examples of these vessels carry decorations in relief (figs. 31a, c, 32m).
 - d) Double-handled “amphorae” with tall profiles and short necks. The handles are usually on the broadest part of the vessel or slightly lower. Multi-rowed linear decorations are characteristic (fig. 31b, d).
- 2) Jars:
 - a) Jars with flat, narrow bases, wide biconic profiles, and long funnel-shaped necks. They are decorated with a range of motifs including linear triangles, *cannelures*, horizontal multi-rowed lines, etc. (fig. 32l).
 - b) Jars with flat bases, broad biconic profiles, and funnel-shaped necks. These vessels often have a single lug handle on one shoulder. Ornaments of horizontal linear belts, oblique lines, triangles and *cannelures* are characteristic (fig. 32h–j, o).
 - c) One-handled jars with flat bases, broad biconic profiles, and funnel-shaped necks. Decorations of incised linear and pressed motifs are characteristic (fig. 32k).
 - d) Jars with flat bases, pear-shaped profiles, and relatively wide and tall necks (fig. 32g).
 - e) Jars with wide spherical profiles and short, cylindrical necks (fig. 32e).
- 3) Pots:
 - a) Pots with globular, biconical, or ovoid bodies and both wide or narrow rims. Larger examples of this type of vessel are decorated with vertical flutes (*cannelures*) while smaller versions are generally decorated with combinations of incised wavy lines, multi-line horizontal ribbing, and thumbnail incisions (fig. 32a–c).
 - b) Double-handled pots with flat bases, broad profiles, and thick rims. Incised multi-line horizontal ribbing is the most characteristic decoration (fig. 32d, f).
- 4) Bowls with flat bases, conical bodies, and very short shoulders. The most common examples have lug handles. They are decorated with deeply pressed furrows (fig. 33j–o).
- 5) Jugs:
 - a) One-handled jugs with wide, flat bases, wide profiles, short necks, and thick rims. Decorations of pressed furrows below the neck or incised straight or oblique lines are most characteristic (fig. 33b, f, p).
 - b) One-handled jugs with flat bases, wide profiles, relatively long necks, and thick rims. Extant examples are often decorated with pressed furrows and *cannelures* (fig. 33a, c–e).

⁴⁶ Iron Ib is equivalent to Early Iron Age II in the traditional periodization.

⁴⁷ Dvin: Kushnareva 1977. Metsamor: Khazadryan, Mkrtchian, and Parsamian 1973: 32–38. Shirakavan: Torosyan, Khnkikyan, and

Petrosyan 2002: 66–115. Karmirberd: Esaian 1967: 10–15, tables 12–14; idem 1972: 9–15, tables 8–14. Horom: Badaljan et al. 1994. Talin: Avetisyan and Avetisyan 2006: tables 7–23. Oshakan: Esaian and Kalantaryan 1988: tables 72, 74.

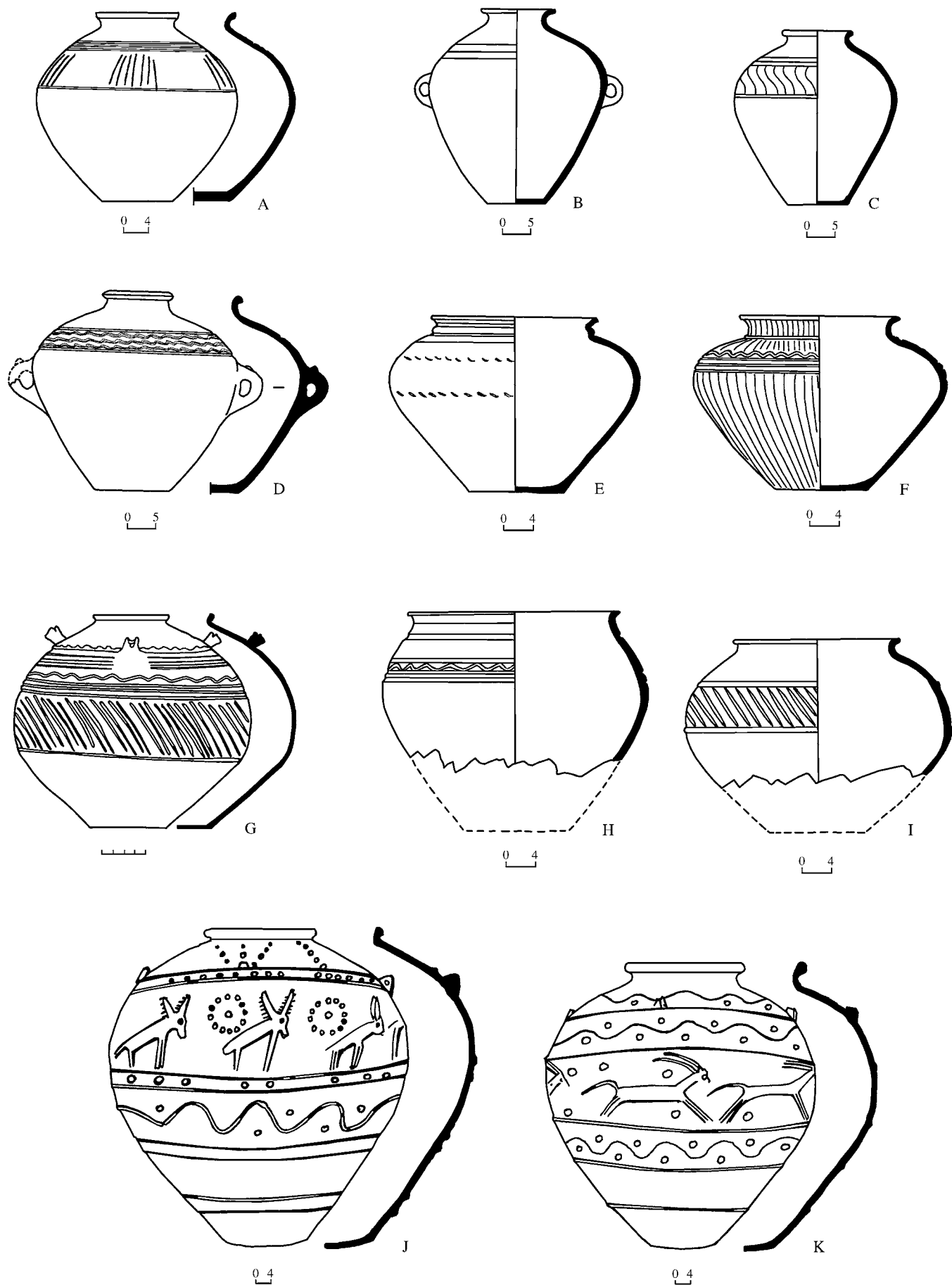


Figure 31. Lchashen-Metsamor 5 Ceramics:

(a) Mastara Tomb 17; (b-c) Mastara Tomb 4; (d) Talin Tomb 18; (e-f) Talin Tomb 5; (g, j-k) Dvin; (h-i) Talin Tomb 4

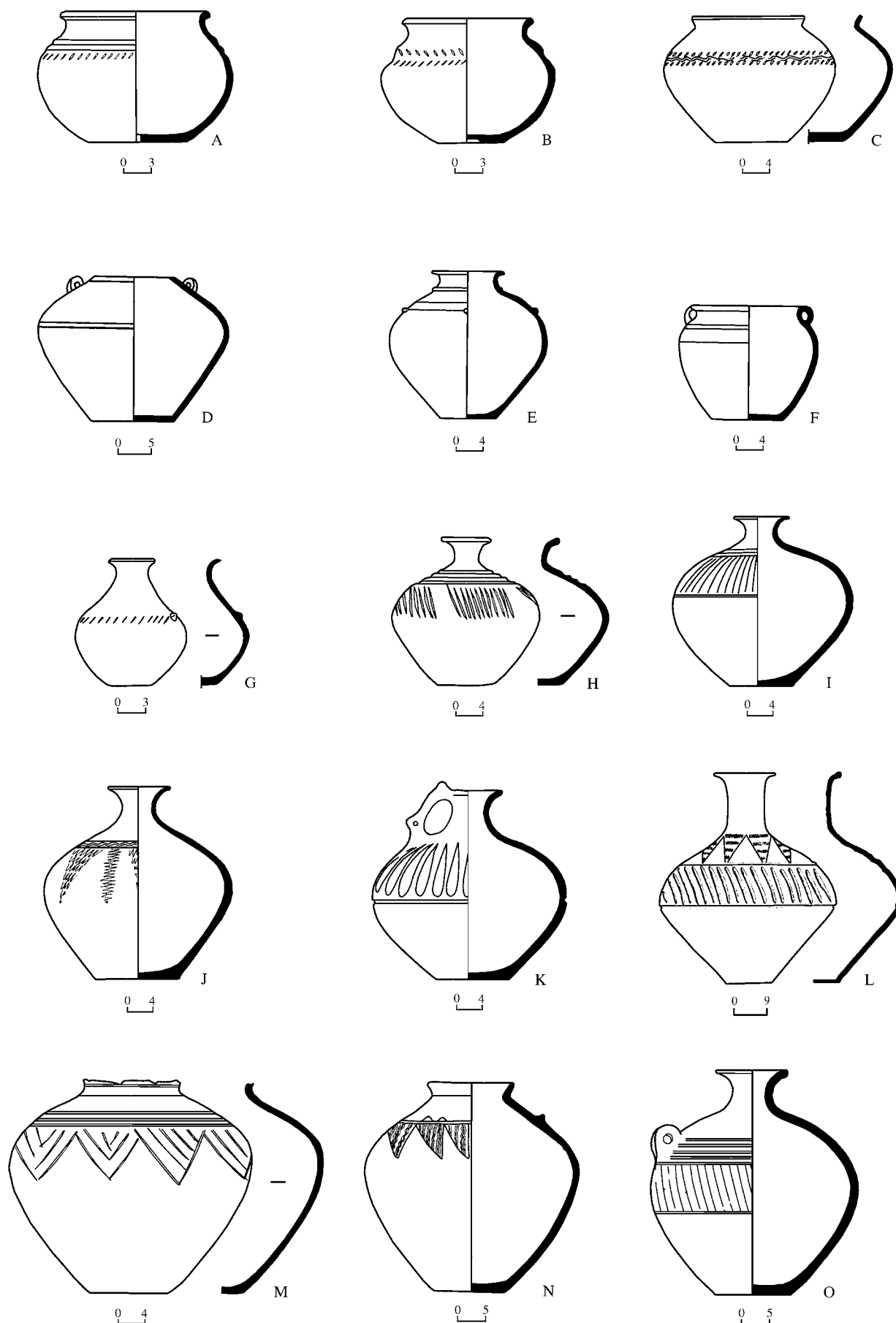


Figure 32. Lchashen-Metsamor 5 Ceramics:

(a–b, g) Talin Tomb 20; (c) Mastara Tomb 17; (d) Mastara Tomb 4; (e) Talin Tomb 5; (f) Talin Tomb 14;
 (h, n) Talin Tomb 37; (i) Karmirberd Tomb 29; (j) Karmirberd Tomb 24; (k) Karmirberd Tomb 6;
 (l) Dvin; (m) Talin Tomb 31; (o) Harich Tomb 223

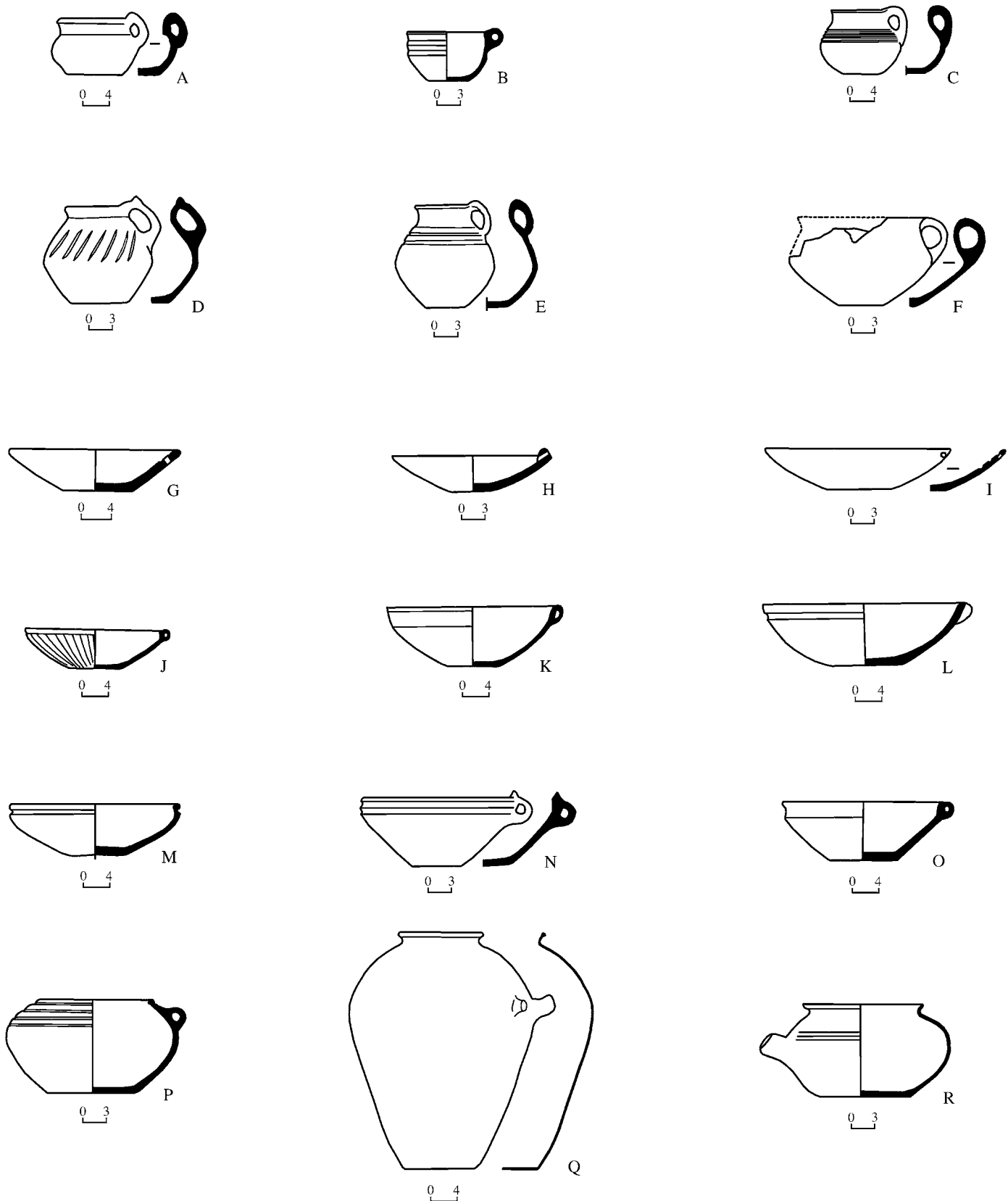


Figure 33. Lchashen-Metsamor 5 Ceramics:

(a) Talin Tomb 92; (b) Mastara Tomb 37; (c) Mastara Tomb 17; (d) Talin Tomb 42; (e) Mastara Tomb 18; (f) Talin Tomb 28; (g) Talin Tomb 24; (h, m) Talin Tomb 25; (i) Talin Tomb 30; (j) Talin Tomb 5; (k) Talin Tomb 4; (l) Talin Tomb 31; (n) Talin Tomb 37; (o) Talin Tomb 54; (p) Talin Tomb 18; (q) Talin Tomb 77; (r) Karmirberd Tomb 55

- c) Double-handled jugs with flat bases, wide biconic profiles, and either wide or narrow necks. Often they are decorated with polished wavy lines (see Avetisyan and Avetisyan 2006: 207, fig. 11.2).
- 6) Other vessels:
 - a) Plates with flat bases and dramatically everted, conical sides. On the interior, they are often decorated with pressed furrows and polished cross-shaped decorations. There are also samples with three legs (fig. 33g–i).
 - b) Spouted vessels with flat bases and biconical or ovoid bodies. Due to variations in the shape and position of the spout they are divisible into numerous subtypes. There are also samples with arched, bucket-like handles (fig. 33r).
 - c) Churns (Russian *masloboika*) with flat bases, elongated bodies, a horizontal handle in the central part of the body, and a single hole on the shoulder. These vessels are generally decorated with two or three rows of incised horizontal lines (fig. 33q).

Glazed pottery — generally miniature plate-shaped vessels and flasks — are also known from Lchashen-Metsamor 5 assemblages, as are boot-shaped vessels, *kernoi* with three or more pipes, goblets on tall stems, and cups of various shapes.

The site of Metsamor in the Ararat Plain provides an important key for defining the stratigraphy and dating of the Iron I period in southern Caucasia. Here, four Lchashen-Metsamor layers were recorded. The upper level at the site appears to date to the imperial period of Urartian expansion, with a Lchashen-Metsamor 6 assemblage typical of local Urartian-period ceramics. But the preceding level, whose destruction is generally attributed to the conquests of Argishti I in the early eighth century B.C., contained a distinctive Lchashen-Metsamor 5 assemblage. Moreover, similar burned layers associated with Urartian military incursions north of the Araxes have been recorded at Karmir-Blur and Dvin. While radiocarbon dates are lacking for this era, it seems reasonable at present to assign the distinctive pre-Urartian assemblages to an Iron Ib phase, dated from the end of the eleventh century to the early eighth century. As Urartian ambitions in southern Caucasia shift from conquest to administration, new highly distinctive materials arrive in the area both as trade items and as products of local craft production accomplished according to imperial formal and decorative specifications. Nevertheless, Lchashen-Metsamor ceramic traditions continue, and indeed outlast, Urartian occupation.

THE IRON II AND III PERIODS

LCHASHEN-METSAMOR 6 (IRON II)⁴⁸

The dramatic economic, social, and political transformations that accompanied the advance of Urartian armies, governors, and bureaucrats into southern Caucasia left deep marks in the region's archaeological record. Alterations in settlement pattern and settlement architecture have been well documented, as have the major artifact categories associated with Urartu (including both "heartland" and regional styles). What remain under-explored and poorly defined are the wares continuous with the Lchashen-Metsamor tradition which constituted a distinct local substratum of material production during the Urartian period.

New forms of iron weapons and tools as well as bronze armor and adornments appear with the Lchashen-Metsamor 6 group (including knives with sickle-shaped blades, iron spears, horse bits, helmets, bell-shaped pendants, and snake-head bracelets, all typical of Urartian material culture). Although the assemblage of "local" (i.e., non-Urartian) ceramics maintains most of the primary morphological characteristics of the preceding era, there are a few notable new formal elements, particularly in tablewares (as opposed to utility or kitchenwares), which become more elaborately decorated. As with the Lchashen-Metsamor horizon in general, vessels with black, brown, and gray surfaces are most typical.

⁴⁸ The Iron II period roughly parallels the Urartian period in the historical chronology.

The following forms are most characteristic of Lchashen-Metsamor 6 assemblage:

- 1) One-handled jars with flat or convex bases, broad spherical profiles, and short funnel-shaped necks. The handles have knobs or elbow-shaped projections above which the handles are decorated with pressed furrows (on later examples, these handles often have stepped incisions or surfaces decorated with button-shaped knobs). Relief and polished ornaments are well known on these vessels as well as wavy line and oblique hatch decorations made by removing the polish from the surface of the vessel (see Martirosyan 1964: tables 22:1–7, 28:1–5).
- 2) Jugs with a single “elbow”-shaped handle, a pear-shaped profile, and a funnel-shaped or conical neck (see Yengibaryan 2002: pl. 4:1,6).
- 3) Jars with flat bases, spherical profiles, funnel-shaped necks, and elbow or loop handles (see Xnkikyan 2002: pl. 80:1–5).
- 4) Single-handled cups or mugs with flat bases, broad profiles, and thick rims. Handles are typically set on the shoulders and are often decorated with pressed circumferential furrows (see Esaian and Kalantaryan 1988: table 77:2).
- 5) Pots with wide, flat bases, broad profiles, and flaring rims. They are decorated with incised thumbnail ornaments and oblique lines (see Martirosyan 1964: table 33:19).
- 6) Pots with biconic profiles, conical necks, and ribbed shoulders (see Martirosyan 1964: table 28:7).
- 7) Zoomorphic or ornithomorphic vessels with three or four legs. These are often decorated with polished ornaments (Martirosyan 1963: table 28:8–9).
- 8) Deep bowls with semi-spherical or conical profiles and flaring rims and lug-handles on the shoulders (see Esaian 1976: table 139:8).
- 9) Phiale-style deep bowls with flaring rims (Yengibaryan 2002: pl. 14:21).
- 10) Teapot-shaped vessels with spherical profiles. In general, their spouts point upward and often join with the handle or rim (see Xnkikyan 2002: pl. 80:11).
- 11) Double vessels made of two, or occasionally three, small jars joined together (see Yengibaryan 2002: pl. 11:6).

Iron I settlements destroyed during the course of Urartian imperial campaigns in southern Caucasia are particularly helpful in defining the beginning of the Lchashen-Metsamor 6 phase. The recent discovery of an inscription in Nakhichevan carved in the name of King Ishpuini by order of his son Menua indicates that Urartu’s expansion into the South Caucasus was initiated during the last decades of the ninth century (Hmayakyan, Igumnov, and Karagyozyan 1996; Igumnov, Karagyozyan, and Hmayakian 1997). Yet it was clearly Argishti I who won the final defeat of local polities (such as Etiuni) and formalized imperial control in the region through the construction of a series of major fortresses (Erebuni, Argishtihinili). Therefore, the Iron I period in southern Caucasia came to an end during an extended period of imperial violence between the late ninth century co-regency of Ishpuini and Menua and the pacification of the region under Argishti I.

Two sites are of particular importance in defining the sequence of Lchashen-Metsamor 6 complexes. Both the post-destruction (upper “kiln”) layer at Metsamor and the lower town at Karmir-Blur contained a wide range of pre-Urartian ceramics. Yet the assemblages from the two sites are distinct in some respects. The construction of Teishebai URU (Karmir-Blur) in the early seventh century by King Rusa II allows us to associate the Lchashen-Metsamor 6 complexes of the lower town with the Urartian reconstruction period of the seventh century B.C. (from the reign of Rusa II through the collapse of Urartu). The local wares at Metsamor appear to be earlier than those of Karmir-Blur, strongly suggesting that its Lchashen-Metsamor 6 materials should be assigned to the Urartian imperial era of the eighth century B.C. The fate of Urartu and its possessions in southern Caucasia during the late seventh century B.C. is not well understood. But just as the advance of Urartu north of the Araxes did not signal an abrupt end to Lchashen-Metsamor ceramic traditions, neither did its retreat.

IRON III⁴⁹

The Iron III period is the least studied of the eras under direct investigation by Project ArAGATS and thus it does not have either a well-described classificatory nomenclature or a broadly agreed-upon typological framework. Inessa Karapetyan (2003) has published the most extensive account of the archaeology of the era to date and this critical work need not be reduplicated here. Furthermore, Khatchadourian's dissertation on the Iron III period on the Armenian Highland, based in part on her investigations with Project ArAGATS at Tsaghkahovit, provides a detailed reconsideration of the key archaeological and historical issues of the era that need not be repeated here. We point readers concerned with the era's periodization and chronology, and the implications of Project ArAGATS's investigations for existing material sequences, to that work.

The archaeological periodization outlined above, simultaneously a codification of existing conventions and a rethinking of long-held chronologies, was stimulated in large measure by the work of Project ArAGATS in the Tsaghkahovit Plain. It should be understood as provisional and open to substantial re-working. It is hoped that more detailed work with the ceramics will soon result in far more detailed typological systems.

⁴⁹ The Iron III period parallels the post-Urartian, Achaemenid, and Orontid (Yervandid) eras in the historical chronology.

CHAPTER 5

REGIONAL INVESTIGATIONS IN THE TSAGHKAHOVIT PLAIN: ORIENTATION AND METHODOLOGY

ADAM T. SMITH

In late fall, the snow line on the north slope of Mount Aragats seems to sprint down the mountain, at first dusting and then smothering the fields and villages of the Tsaghkahovit Plain (pl. 66b). In spring, the retreat of the snow back up the mountains is more measured in its pace, yielding first the lower peaks of the Pambak range that run across the northeastern border of the plain. Only in late May do the snows on Mount Aragats, battered by rising temperatures and spring rains, settle back onto the mountain's rocky upper slopes, revealing broad pastures watered throughout the dry summer by the mountain's glacial pack. As in much of Armenia, by July the earthen brown of the tilled plain and the lush green of the hillside pastures have switched places as crops emerge from the fields and the unirrigated slopes wither.

THE PHYSICAL LANDSCAPE

The Tsaghkahovit Plain (which translates as “plain of flowers”) is a roughly triangular intermontane plateau in central Armenia (pl. 11). Set between the northern slope of Mount Aragats (4,090 m a.s.l.), the southwestern slopes of the Pambak range (2,737 m a.s.l. at the summit of Mount Kamardag and 2861 m atop Mount Devet-tash), and the east slope of Mount Kolgat (Mets Sharailer, 2,474 m a.s.l.), the plain itself is no more than 15–20 km wide at its maximum extent. It is the smallest and the highest (2,000 m a.s.l.) of the three major plains — along with the Ararat and Shirak — that nestle at the base of Mount Aragats. Just off center, Mount Vardablur (2,376 m a.s.l.), a large, highly weathered massif, rises almost 300 m above the surrounding plain.

The Tsaghkahovit Plain is linked to its neighboring regions by narrow defiles that channel roads and communications through a series of well-worn pathways. To the north and northeast, a number of small passes wind through the Pambak Mountains down to the Lori and Debed Valleys. Today, the main road from Yerevan to Spitak runs along the northeastern edge of the Tsaghkahovit Plain, cutting through the mountains via the Pambak Pass (2,152 m a.s.l.). To the south, the Kasakh River flows into the Aparan Valley on the eastern flank of Mount Aragats and then through deeply cut canyons into the Ararat Plain. To the west, a passage between Mount Aragats and Mount Kolgat descends slowly to the lower elevations of the Shirak Plain (1,500 m a.s.l.), drawing with it the waters of the Mantash River (north Aragats's largest river) and the Gezaldara Stream (which originates near the village of Hnaberd). Both watercourses flow through a series of deeply cut canyons into the southeastern Shirak Plain to join the Akhourian River.

While the plain and its hilly flanks occupy the experiential center of life in the Tsaghkahovit region — villages and commercial activity cluster conspicuously at the intersection of the pasture and the sown — it is Mount Aragats that is the pivot for the imagined landscape (a point perhaps most dramatically emphasized by the massive line dance involving hundreds of thousands of participants that encircled the base of Mount Aragats on May 28, 2005, to mark the anniversary of the First Republic of Armenia). Indeed, the mountain's jagged profile and glaciated summit are visible from most points in the Tsaghkahovit region. Aragats is the third highest peak in the Armenian Highland after Great Ararat (5,165 m a.s.l.) and Süphan Dağı (4,434 m a.s.l.). Like its peers, Mount Aragats was also formed by volcanic processes, although it has long been dormant (Karakhanian et al. 2002, 2003: 37). The slopes are largely composed of basalt but there are also significant tuff deposits. Today, a large tuff mine is operating in the western gate of Tsaghkahovit Plain, along the road between Artik and Mantash.

In general, the physical landscape of the Tsaghkahovit Plain is classified as mountain steppe yielding to alpine conditions near the summit of Mount Aragats. The Tsaghkahovit depression is an isolated intra-mountainous basin filled with thick (up to several hundred meters) lacustrine, alluvial, proluvial, and volcanic deposits (Zograbyan 1979). The depression is largely devoid of groundwater sources and flood and small river waters flowing down the

depression slopes percolate and migrate quickly. The upper slopes of Mount Aragats are marked by large expanses of denuded basalt rubble while the lower reaches are dotted with eroded cinder cones. The rich volcanic soils of the lower slopes host grass pastures and open meadows fed by mountain streams and occasional springs. The undulating spurs of the mountain built by successive lava flows create a series of alternating ridges and valleys that channel water into a series of well-defined fluvial troughs (Karakhanian n.d.).

In contrast, the Pambak range on the northeast side of the plain, part of the Lesser Caucasus range, is composed of Cretaceous (Neocomian-Coniacian) limestone, porphyrites, and Middle Jurassic volcanogenic sedimentary rocks cut by a large lower Cretaceous granitoid intrusion, known as the Gegharot intrusion (Karakhanian n.d.). The slopes are, in general, highly eroded with thin soil deposits. Lacking the permanent snow pack that helps keep Mount Aragats well watered in the dry summer, the Pambak slopes are generally quite arid. Summer rains, though rare, do settle on Mount Aragats. When caught by the mountain's high peaks, violent storms can unleash intense flashes of rain and hail upon the villages at its base. Such storms tend to move from west to east and rarely push north across the plain to water the thirsty Pambak slopes. Yet, despite their general aridity, the northeastern foothills of the Tsaghkahovit Plain do constitute the headwaters of the Kasakh River. Although only a small creek at its upper reaches, and occasionally dry at the height of summer, the upper Kasakh is fed by a system of mountain streams as it passes through the Aparan Valley. The substantial runoff from the north slope of Mount Aragats rarely makes it all the way to the base of the mountain, instead percolating through the porous volcanic soils into the aquifer unless harnessed by irrigation systems.

The Tsaghkahovit Plain thus lies at the headwaters of the Kasakh, the Mantash, and Gezeldara rivers — all tributaries of the Araks system. Just to the north, beyond the Pambak Pass, the Pambak and Debed rivers flow north to the Kura. The Tsaghkahovit Plain, in fluvial terms, thus lies at the far northern frontier of southern Caucasia, a last redoubt of southerly flowing rivers tied to the Araks basin.

The southeastern flank of the Tsaghkahovit depression is bound by the metamorphic complex of the Tsaghkunyats range, which contains metamorphic slates, amphibolites, Paleozoic diabases, and Cretaceous and Jurassic limestone cut by the Hankavan Middle-Upper Jurassic plagiogranites (Karakhanian n.d.). The Tsaghkunyats range is also quite rich in exploitable geological resources including obsidian, gold, and copper deposits (pl. 3).

THE MODERN SOCIAL LANDSCAPE

During the early Soviet era, the Tsaghkahovit Plain was part of the Spitak administrative district, which tied it to neighbors on the other side of the Pambak Pass. But in 1972, the village of Tsaghkahovit (pl. 66c) became the provincial capital of the new district of Aragats, covering 382.4 square km, that included the territory from Lernapar in the north to the summit of Aragats in the south, from Gekhadir in the west to Mirak in the east. A 1986 census set the population of the Aragats district at 14,100 people (Hewsen 2001: 249). After independence, Armenia was reorganized into ten provinces (or *marz*). The Tsaghkahovit Plain is now part of the Aragatsotn *marz* which embraces the northern, eastern, and southern slopes of Mount Aragats and is centered in the town of Ashtarak, northwest of Yerevan.

The Tsaghkahovit Plain is used today for irrigation-based cultivation while the slopes of Aragats and, to a lesser extent, Kolgat, Vardablur, and the Pambak range, offer pasture for substantial herds of sheep, goat, and cattle. Settlement is dispersed across several small villages, but the area has suffered significant population losses due to emigration as a result of the collapse of the Soviet-era rural infrastructure. While privatization has put land into the hands of local families, people of the region complain that allotments are too small and the parcels insufficiently productive. The shuttering of local factories in the early 1990s that had previously manufactured finished products from regional raw materials (including textile factories in both Tsaghkahovit and Gegharot villages) effectively forced a rural population that had been partially industrialized (particularly in Tsaghkahovit village after its promotion to regional center in 1972) back into the role of a landed peasantry (Smith and Khatchadourian n.d.).

Many of the younger residents of the Tsaghkahovit Plain resisted this shift and chose instead to move to Yerevan or leave Armenia altogether to find work in Russia or, more rarely, Europe and America. This is particularly the case for young male residents and as a result the demographic profile of the region has changed dramatically, skewing older and more female. In 2002, the village of Tsaghkahovit reported a population of 2,196 and a work force of 1,555. The village of Gegharot (pl. 67b) reported a population of 587 and a work force of 315. But of that 315, over seventy were seasonal migrants working in Russia. Officially, unemployment in Tsaghkahovit was estimated to be only 7.5 percent, while in Gegharot it was set at 13 percent. But local mayors in the region em-

phasize that official government statistics count every adult member of a family that owns land as fully employed, creating deceptively low unemployment figures for the region. In 2002 the mayors of Tsaghkahovit and Gegharot independently estimated the unemployment and underemployment rates in their villages to be closer to 67 percent or perhaps even higher.⁵⁰

Against this background of economic crisis it is an unfortunate footnote that Project ArAGATS, employing between twenty-five and forty workers during its more recent field seasons, is one of the largest, albeit seasonal, employers in the region. Yet this also offers reason for hope. The combination of the region's remarkably preserved archaeological monuments and its location along the main transit route from Yerevan north to Vanadzor and Tbilisi suggest that considerable potential for regional development lies literally just under the surface. The slow emergence of a tourist infrastructure in Armenia has generated new demand for "cultural heritage" destinations and afforded new prominence to archaeological sites as potential engines of rural redevelopment.

BRUSHES WITH HISTORY: THE TSAGHKAHOVIT PLAIN AND TEXTUAL SOURCES

Locally produced texts appear in the South Caucasus only with the expansion of Urartu in the ninth/eighth centuries B.C. Prior to that, the only known examples of writing from the region come from imported objects, such as an onyx frog from an Iron I tomb at Metsamor inscribed with the name of Ulam Buriash (fifteenth century B.C.), king of Kassite Babylonia (Khanzadian, Mkrtchian, and Parsamian 1973). However, the use of writing as an instrument of economic administration, bureaucratic regulation, and political ideology by the Urartian kings was not embraced as an enduring technology. After the collapse of Urartu, writing largely disappeared once again from the South Caucasus, making a slow resurgence beginning in the second century B.C. under the Artaxiad and subsequent Arsacid dynasties.

Yet despite the generally limited array of textual sources, the Tsaghkahovit Plain is maddeningly unique in that it almost appears to have steadfastly resisted incorporation into the historical record. The Urartian king Argishti I, although not the first to introduce the epigraphic monument to the South Caucasus (his father Menua seems to have done that; see Hmayakyan, Igumnov, and Karagyozyan 1996), was certainly one of the more prolific of the Biainili kings. A northern campaign traditionally dated to the year 786 B.C. brought Argishti into the Shirak Plain. His army appears to have arrived in Shirak from the north or northwest (Barnett 1982: 344–45; Ushakov 1946), conducting raids and waging war as it went. An inscription erected by Argishti I at Marmashen, north of modern Gyumri, reads:

To the great god Khaldi, Argishti says: I destroyed the land of Eriakhi, destroyed the city Irdaniuni up to the land of Ishkigulu (Arutyunian 2001: no. 179; Melikishvili 1960: no. 133).

Having conquered Eriakhi, Argishti continued his march southward where his armies came up to the western gate of the Tsaghkahovit Plain. An Urartian inscription carved into a rock-face in the Mantash River canyon, near the modern village of Spandarian, reads:

(God) Khaldi set off (on the campaign); with his weapons, he defeated the land of Qulia[ini], which prostrated itself before Argishti. Khaldi went before (Argishti). Argishti says: I destroyed the city of Duruba[ni] (of the land of) Qulia[ini] (Arutyunian 2001: no. 178; Melikishvili 1960: no. 132).

Studies of Urartian toponyms (Arutyunian 1985; Diakonoff and Kashkai 1981; Harouthiounian 1982) generally locate Qulia in the southern Shirak Plain. Perhaps one of the best candidates for the city of Duruba is, at present, the site of Horom, which appears to have been the site of a significant pre-Urartian settlement prior to the construction of the large Urartian-period occupation. But there is no evidence to suggest that Argishti's forces moved east into the Tsaghkahovit Plain, preferring instead to move south to the Ararat Plain.

As far as we know at present, the Tsaghkahovit Plain did not have another brush with written history for almost 600 years. A stela of the Armenian king Artashes I, erected during the second century B.C., was discovered in 1977 near the town of Spitak, in the Lori Valley, just north of the Tsaghkahovit Plain. The six lines of the inscription read:

Artashes
king, Yervandid

⁵⁰ These statistics were provided by the mayors of Gegharot and Tsaghkahovit during conversations with Badalyan and Smith held in

2002. Our thanks to both for their continued collaboration in the work of Project ArAGATS.

the majestic, son
of Zareh, distributing
the land, here, in
the village (Vardanyan 2003: 120).

It is perhaps ironic that the theme of Argishti's Spandarian inscription is destruction and expropriation while that of Artashes is redistribution. But despite the proximity of both inscriptions, it is difficult to read any part of either text as bearing directly upon life in the Tsaghkahovit Plain in the first millennium B.C.

The fourth-century A.D. *Tabula Peutingeriana* (Peutinger Table), named after the early sixteenth-century antiquarian in whose library the manuscript was found, provides a remarkable schematic map of the world's trade routes at the time of its production (Galichian 2004; Hewsen 2001: 64–70). The map is only 1 foot (0.34 m) wide, but 21 feet (6.82 m) long, creating the effect of extreme lateral distension — a map drawn, in effect, from the subjective perspective of the traveler who moves along the straight lines of well-defined routes. Cities and towns are represented by drawings of castles and villas. Connecting these points are saw-toothed lines. The corner of each tooth represents a waypoint or village that is labeled with its name and distance from the previous waypoint. One major route (no. 101) links the city of Artashat in the Ararat Plain to a city named Sevantopoli, which Manandyan (1965) and Hewson (2001: 65) place on the Black Sea coast of Colchis (perhaps near Phasis). Manandyan plausibly recreates this route as passing along the Kasakh River valley and then into the valleys of the northerly flowing rivers (i.e., the modern road linking the Ararat Plain with Vanadzor in the Lori Valley and the Georgian border). Such a route would bring a traveler along the eastern flank of Mount Aragats and into the Tsaghkahovit Plain.⁵¹ Distances marked on the map suggest the presence of waystations along the route, including the village of Condesus located 44 Roman miles (ca. 65 km) from Artashat. If Hewsen's route is correct this would place Condesus somewhere just south of the modern village of Kuchak. The next waypoint, Misium, is 10 Roman miles (ca. 15 km) from Condesus, which, following the Kasakh north, would be located near Aparan, a town just below the southeast gate into the Tsaghkahovit Plain known to have been the center of a significant principality by the early fourth century A.D.

Indeed, in 1908, a Greek inscription was discovered in Aparan. This fragmentary inscription was found reused in a house built below the multi-component fortified citadel at Aparaniberd.⁵² The partial text, composed by Tiridates III in the late third or early fourth century A.D., reads:

Tiridates the Great, king of Greater Armenia granted ... Gntuni son of Rodomithros for feeding[?] ... the city of Nig ... February (Trever 1953: 273).

Tiridates III (ca. A.D. 238–314) appears to have bestowed several provinces upon elite "houses." After the fall of the Arsacid dynasty in A.D. 428, Nig remained under the rule of the local princely house until Emperor Maurice re-organized the territories he acquired in the Byzantine-Persian partition of Armenia which included the principality of Nig (Hewsen 1992: 212). But what, or more precisely, where, was Nig?

Nig is later mentioned in the seventh-century *Ashkharyots* (Geography) composed by the Armenian writer Ananias of Shirak (Shirakts'i 1994: 70), where it appears as a subprovince of the district of "Ayrarat." According to Hewsen's (2001: 100–03) masterful historical atlas of Armenia, Nig was centered around the upper Kasakh Valley including Aparan and the Tsaghkahovit Plain. But as with the Urartian inscription at Spandarian to the west and Artashes's inscription at Spitak to the north, Tiridates' inscription at Aparan appears to engulf the Tsaghkahovit Plain in the currents of South Caucasus sociopolitics even as it remains aloof from written history. As a result, investigation of the Tsaghkahovit Plain's past — particularly its more distant past — must rely entirely upon the region's abundant archaeological resources.

ISSUES AND GOALS

Project ArAGATS is directed toward three general anthropological and three more specifically archaeological goals. The first anthropological goal of the project is to define the organization of political authority and chart its

⁵¹ Hewsen (2001: 65) suggests that this route would pass along the north slope of Mount Aragats to the Shirak Plain and the area of modern Gyumri. However, this seems unlikely. Once a traveler has passed along the east flank of Aragats, the most direct route north is through the Spitak Pass on the north side of the Tsaghkahovit Plain. If

one's route from the Ararat Plain goes north via the Shirak Plain, it is much easier to travel around the western slope of Mount Aragats.

⁵² Surface inspection of Aparaniberd suggests an initial construction in the Late Bronze or Early Iron Age followed by re-occupations in the "antique" period (Badalyan and Avetisyan 2007).

historical emergence and transformation. It seems clear from previous investigations that during the mid-second millennium B.C., societies in the South Caucasus were transformed from stratified, highly mobile, pastoral communities into complex, settled territorial polities complete with rigid social hierarchies and developed sociopolitical institutions cloistered within stone-walled fortresses. How is such a radical transformation possible? Traditional anthropological theories describe the slow formation of archaic states out of settled agrarian populations. But in the South Caucasus, complex societies emerged with astonishing rapidity following more than half a millennium of mobile lifeways that were highly invested in the practices of stock breeding (see *Chapter 4*). Our first goal was therefore to define the social forces driving the emergence, collapse, and reproduction of early complex polities.

The second anthropological issue driving the research design of Project ArAGATS emerged from the shifting position of the South Caucasus within regional models of ancient economic geography. Beginning in the 1970s, archaeologists began to examine large-scale movements of raw materials across the Caucasian isthmus to the north and south and to discuss how these routes articulated with those of Caucasia's neighbors. Enduring discussions in the Near Eastern literature over tin and obsidian sources and in the Eurasian literature over Circumpontic and Transcaucasian metallurgical communities (Chernykh 1992) thrust the South Caucasus into alternating roles of production center (metals) or resource periphery (obsidian). While these studies emphasize macro-scale exchange networks across vast distances, little work has been done to set such expansive connections within the context of the intensely local social and political forces that actually regulated exchange. We set out to address this lacuna by examining regional political economy on a finer scale as revealed in the details of local material flows within a single region.

Our third anthropological goal has been to provide an integrated account of the forces making and re-making the social and political landscape of the South Caucasus. Project ArAGATS was designed to examine the spatiality of authority along three primary scales. On a regional level, we were concerned to define how polities at various times manufactured sovereignty over a delimited territory by integrating subject populations into a political order and differentiating themselves from geopolitical rivals. On a local level, we wanted to focus upon the formation of regimes through both the seizure of key sources of sacral, economic, and political power and the production of legitimacy through links to grassroots social organizations, particularly kin groups. On a still more refined scale of political practice, our investigations were directed toward defining the institutional apparatus of social and political life. Archaeologists have long used architecture as a shorthand for major sociopolitical institutions. Temple, palace, and marketplace regularly stand in for discrete religious, political, and economic spheres of administration and authority. This distinction has served relatively well in places such as southern Mesopotamia, where such institutions appear to have emerged as discrete, authoritative locations by the early third millennium B.C. However, in the South Caucasus, institutional divisions do not appear to have been so neatly codified.

Our more specifically archaeological goals are, in many respects, redressive. That is, they attempt to fill in particularly glaring gaps in our knowledge of the material history of the South Caucasus. First, while a large number of ancient settlements, fortresses, churches, and cemeteries have been documented in the South Caucasus during the last century of intensive research, these investigations have tended to be extremely site focused. Thus, contemporary sites sat on small islands — terra firma — while the vast area in between remained terra incognita. Project ArAGATS was specifically designed to provide a broadly encompassing description of the archaeological landscape.

Second, while the Urartian and Artaxiad periods could boast major long-term archaeological programs at sites such as Karmir-Blur and Artashat, the same was less true for the Early and Late Bronze Ages (with the exception of the woefully under-published site of Metsamor) and simply could not be said of the Iron III period (with the critical exception of the long-term investigations at Armavir). Our initial examinations of the Tsaghkahovit Plain suggested quite clearly that it was in fact these periods — the Early and Late Bronze Ages and the Iron III period — that were best represented in the region. We have therefore been particularly concerned to illuminate these lesser-known eras.

Third, as discussed in *Chapter 2*, most of twentieth-century archaeology in the South Caucasus was “big site” archaeology, focused on major capitals, from Marr's work at Ani to Piotrovskii's at Karmir-Blur to Khachatrian's at Artashat. During the 1970s and 1980s, Bronze and Iron Age archaeology took some steps to diversify the kinds of sites investigated to include smaller sites and areas away from the Ararat Plain (e.g., Avetisyan 1996; Esaian 1976; Xnkikyan 2002). By and large, however, material sequences are known almost exclusively from major centers and we have yet to truly assess how closely the communities in small towns and villages echoed or ignored the material culture of the metropolises.

The Tsaghkahovit Plain was selected as the focus of our investigations for three reasons. First, the region offers a relatively self-contained locale bounded on all sides by mountains but articulated with surrounding areas by well-defined transit routes. While the mountain slopes certainly presented physical and logistical challenges for walking survey, they presented a more accessible and coherent topographic profile than the valleys of northern (e.g., Amasiya) and southern (e.g., Zangezur) Armenia. Most importantly, the area is relatively small, making an encompassing form of regional investigation more plausible than better-known — and much larger — adjacent intermontane plateaus such as the Shirak or Ararat plains. Since one of our primary goals was to contextualize major sites (such as Late Bronze Age fortresses) within a broad account of the surrounding landscape, the Tsaghkahovit Plain offered an ideal setting for developing models of regional transformations.

Second, the Tsaghkahovit Plain was chosen as the site of our investigations because some research had been done in the region previously, lending a foundation for continued work and alerting us to the pronounced and well-preserved remains attributable to the early phases of complex sociopolitical formation in the Late Bronze Age. Since this was the first time systematic intensive walking survey had been employed in the South Caucasus, it helped in making a case for the program that, as early as Nikolai Marr, observers had anecdotally noted cemeteries in the hinterlands beyond the fortresses.

Third, it was important that the research area be outside the zone of direct Urartian occupation. Urartian efforts to remake conquered political landscapes regularly included razing pre-Urartian sites, particularly major centers (Smith 2003). Urartian efforts to expunge memories of previous political orders did not simply include burning earlier sites. In several documented cases (e.g., Horom, Karmir-Blur), Iron I fortresses were completely dismantled, the earth deeply excavated, and Urartian foundations built either on bedrock or considerably older deposits (in the case of Horom, much of the architecture on the B terrace seems to have been built atop Early Bronze Age levels after the intervening deposits had been scraped off). Since one of our primary thematic concerns was to define pre-Urartian movements toward complex political and social formations, it was critical that we avoid areas with sites that might have been targeted by the Urartians for destruction. As noted below, previous work in the Tsaghkahovit Plain had not revealed any substantial occupation attributed to Urartian builders.

FIELD INVESTIGATIONS

Archaeological research in the Tsaghkahovit Plain began in 1893 with a visit to the region by Nikolai Marr, who recorded several large fortresses, including Hnaberd, Gegharot, and Tsaghkahovit, which at the time was named Haji Khalil (Khachatryan 1974). Marr's route through the Tsaghkahovit Plain provided a template that was repeated by Toramanyan (1942), Adzhan, Gyuzalian, and Piotrovskii (1932), and Kafadaryan (Adelyan and Kafadaryan 1996), who re-recorded the region's fortresses in greater detail. The only excavations conducted in the Tsaghkahovit Plain prior to 1998 were those of Martirosyan (1964: 89–93), who opened five Late Bronze Age graves below Gegharot Fortress in 1956, and Esayan, who examined three more graves from the same complex in 1960.

In 1998, Project ArAGATS initiated its investigation of the issues and problems outlined above. It was clear that many of our goals required a thorough understanding of the regional landscape as a foundation for more focused programs of excavation. Field seasons in 1998 and 2000 (and briefly in 2004) were therefore dedicated to a systematic regional investigation of the Tsaghkahovit Plain (Avetisyan, Badalyan, and Smith 2000; Smith, Badaljan, and Avetissian 1999).⁵³ Our program was centered on a systematic pedestrian archaeological survey (pl. 12) of 98.31 km² of the foothills surrounding the plain. This included intensive surface surveys at the thirteen major settlement sites in the region: Hnaberd, Gekhadzor, Sahakaberd (fortress and town), Tsaghkahovit (fortress and town), Mirak, Aragatsiberd, Poloz-Sar, Ashot-Yerkat, Tsilkar Fortress, Tsilkar Settlement 1, Gegharot, Berdidosh, and Lernapar. Test excavations at five fortresses (Hnaberd, Tsaghkahovit, Gegharot, Tsilkar, and Poloz-Sar) and four cemeteries (Tsaghkahovit Burial Cluster 12, Hnaberd Burial Clusters 4 and 11, Mantash Burial Cluster 8) complemented the results of the survey, providing depth to the sequences detected on the surface. These investigations were further augmented by targeted examinations of the plain proper, utilizing satellite imagery (Corona, SPOT, Landsat) and two series of aerial photographs (1948 and 1989) complemented by field inspections and subsurface probes (test pits and augur probes). Taken together, this research program has provided the most detailed description to date of a regional archaeological landscape in the South Caucasus.

⁵³ A short program of pedestrian survey was also conducted in the summer of 2004 in order to fill in gaps left from the earlier seasons.

SURVEY METHODS

The primary focus of our regional investigations was a pedestrian survey. One major restriction upon the efficacy of systematic walking survey in the republics of the former U.S.S.R. is the profound impact of Soviet land amelioration policies on archaeological sites and resources (see *Chapter 7*). The primary goal of the land amelioration program was to increase the productivity of agricultural land and provide the foundations for rural development. In some of the more catastrophic (and hence well-known) cases, amelioration has led to ecological crises, such as the irrigation programs that have rapidly bled the Aral Sea dry (Scott 1998). In more typical cases, amelioration amounted to large-scale bulldozing designed to clear farmland. In Armenia, a land strewn with rocks and boulders, this generally meant clearing the major areas of flat arable land, but it also meant that archaeological sites that may have been located on the plain were systematically destroyed. As a result, in order to make the most efficient use of limited resources, we decided to focus our walking survey on the flanks of the Tsaghkahovit Plain, the hilly slopes that were largely immune to amelioration due to their use as pasture land.

We divided the target area into twelve survey quadrants:

Aparan quadrant (2000)	=	9.51 km ²
Berdidosh quadrant (2000)	=	1.99 km ²
Tsaghkahovit/Sahakaberd/Hnaberd (1998)	=	36.46 km ²
Gegharot quadrant (2000)	=	9.86 km ²
Gegharot Kurgans quadrant (2004)	=	0.19 km ²
Jarjaris quadrant (2000)	=	3.10 km ²
Kolgat quadrant (2000)	=	7.93 km ²
Lernapar quadrant (2004)	=	0.25 km ²
Mantash quadrant (2000)	=	24.56 km ²
Vardablur quadrant (2000)	=	4.46 km ²
<hr/>		
Total area surveyed in 1998	=	36.46 km ²
Total area surveyed in 2000	=	61.41 km ²
Total area surveyed in 2004	=	0.44 km ²
Total area surveyed 1998–2004	=	98.31 km²

We began our survey in 1998 in the central Aragats quadrants that stretched between the fortresses of Tsaghkahovit and Hnaberd. Our northern boundary was defined by the cultivated fields of the plain and our southern boundary by the end of the verdant pastures and the beginning of stark fields of volcanic rubble that define the upper slopes of the mountain. Transects were initially set 25 m apart and progress along them was guided by sighting compass.⁵⁴ We calculate the direct coverage of the central Aragats quadrant to have been 16 percent of the total ground surface (Sundstrom 1993).⁵⁵

The findings of the 1998 survey were not entirely what we had expected. The background material density in the region was zero. Very few surface artifacts were found beyond the immediate surroundings of the fortresses. Those that we did find were often associated with looted burials. The remains that we encountered as we moved

⁵⁴ In 1998, the U.S. government still factored a substantial, though uncontrollable, error into GPS signals, hence our use of compasses to align transects in relation to magnetic north (see *Chapter 7*). By 2000, this program was eliminated and GPS signals attained a far greater accuracy and more predictable range of error. As a result, in subsequent seasons, transects were oriented using GPS to the regional UTM grid system, although sighting compasses also helped maintain transect lines over short distances.

⁵⁵ We do not engage here with the often conflicting arguments over what constitutes a “full-coverage” survey (see Banning 2002: 167; Fish and Kowalewski 1990; Tartaron 2003). Instead, we use the calculations based on the formulae provided by Sundstrom (1993) as a way to quantify survey intensity in a way that can then be used for direct comparison with other peer surveys in the region. We do not suggest that our survey “covered” only 16 percent of the target area, only that 16 percent fell directly beneath our feet. Only a transect spacing of 0 (a rather intimate approach to method) provides 100 percent coverage according to this method of calculation.

away from the fortresses were almost exclusively architectural — remains of settlements, irrigation facilities, circles of stones that likely once served as corrals, and, above all, an unexpectedly large number of cemeteries. In the absence of small scatters to detect and record, our 25 m transect interval became overly crowded, with most features stretching across several lines.

Responding to an archaeological landscape that was composed primarily of built features rather than artifact scatters, we decided in 2000 to expand our transect spacing to 50 m. This provided us with a far more extensive view on the region which we felt was warranted. Given that several of the areas we surveyed in 2000, such as the slopes of Mount Kolgat and Mount Vardablur, were largely sterile, this proved a providential decision, as it allowed us to focus our time on more complicated and critical areas. Nevertheless, this decision did reduce our direct coverage of the 2000 season quadrants to approximately 8 percent of the total ground surface (Sundstrom 1993). In 2004, we conducted surveys of two small quadrants (Lernapar and Gegharot Kurgans) in order to fill in unfinished gaps in our coverage. Because these quadrants were so small, we were able to revert to a transect spacing of 25 m.

Site visibility in all the survey quadrants was quite good. The area is largely deforested and there are few areas of scrub or ground bushes that might obscure surface features. The surface is, however, covered by a tightly woven grass sod. Since the slopes are used only as pasture, this sod carpet is rarely, if ever, broken, which may explain the general paucity of artifact scatters. Furthermore, cromlech burials vary considerably in the depth of the interment. It is quite possible to have the architecture of the burial disturbed, or even destroyed, by a bulldozer, while the chamber below, and its contents, remain intact.

Our survey recorded a range of distinct “places” on the landscape, by which we mean specific geographic locations clearly incorporated into the world of human action and meaning (Casey 1997; Smith 2003). Each was described, along with its surroundings, and located using GPS recorders. Places generally fell into eight broad types with a ninth defined by a unique artifact class: 1) fortresses (settlements surrounded by visible masonry walls); 2) settlements (unfortified architectural complexes); 3) isolated architecture; 4) corrals; 5) canals; 6) canal traces (small linear depressions, typically located on hillsides and distinguished from canals by the lack of visible construction); 7) burial clusters; 8) scatters; and 9) stelae.

Our goal was to locate and provide general descriptions of each place; we did not seek to provide detailed accounts of every feature. In the case of the numerous burial clusters, tombs were often so tightly packed that it was impossible to confidently provide an account of any one burial. As a result, we decided to provide, where possible, descriptions of representative and/or highly distinctive features within a given burial cluster. As Askharbek Kalantar noted in the first (non-systematic) survey to be conducted in the shadow of Mount Aragats:

The first day of our expedition began at about seven *versts*⁵⁶ from Etchmiadzin, near the village of Hadjighara.⁵⁷ Here we noticed alignments of *cromlechs* which we began to count, without being familiar with the surrounding region. However, we soon discovered that this system of registration was impossible as the area covered by the *cromlechs* had no boundaries, making it difficult to separate groups (Kalantar 1994: 19).

While we were able to establish groups, or clusters, of cromlechs in the Project ArAGATS survey areas, Kalantar was certainly correct that an exact record for each individual cromlech is indeed an impossible — and most likely rather unproductive — undertaking.

INTENSIVE SITE SURVEY

Significant built environments — all fortresses and settlements — were singled out for more intensive local survey. Sites were subdivided into distinct collection loci based upon architectural and/or topographic features that delimited an area impacted by similar formation processes. We decided expressly against conducting a gridded pickup of the sites for two reasons. First, walking a 1 m transect grid on steep slopes is a rather frustrating practice since lines converge and cross to such a degree that the grid is quickly lost. Second, we sought to allow local site features to dictate collection units (i.e., erosional zones that mixed materials or architectural units that restricted their movement) rather than compress all sites onto an abstract grid. The intent was to allow for broad descriptions of intra-site spatial variation while also realistically accounting for the formation processes that contributed to the surface distributions. Within each locus, we walked 1 m spaced transects collecting 100 percent of the visible ma-

⁵⁶ A verst (Russian *versta*) is an Imperial Russian unit of measure equal to 1.067 km. ⁵⁷ Modern Aigeshat.

terials. Because the densities of ceramics on sites in the Tsaghkahovit region are not high, we decided that a total collection strategy was the only practical approach that would produce sufficiently robust collections.

TEST EXCAVATIONS

Both pedestrian survey and remote sensing (see *Chapter 7*) provided us with views of remains visible, or at least once visible, from surface inspection. But local conditions strongly indicated that this superficial perspective necessitated excavations that could lend depth to the places detected on the surface. Since the archaeological landscape was composed primarily of built features without associated surface artifacts, only excavation could provide data for defining material sequences and refining regional archaeological chronologies.

In 1998, we centered our test excavations at the fortress of Tsaghkahovit, where we placed sondages in each of the major areas of the site: the citadel, the western terrace, the south settlement, and the southeast settlement. In addition, we opened two stratigraphically superimposed cromlech burials on the southeastern edge of the site (Tsaghkahovit Burial Cluster 12; Avetisyan, Badalyan, and Smith 2000). In 2000, we shifted the focus of our test excavations to the fortresses of Hnaberd and Gegharot. At Hnaberd, we opened three sondages within the walls of the citadel. Two operations were set against different sections of the fortress wall and helped us to define the sequence of occupation and reconstruction at the site. In addition, we opened three cromlech burials near Hnaberd, one just south of the southern citadel wall (Hnaberd Burial Cluster 10 tomb 1) and two below the northeast slope of the outcrop (Hnaberd Burial Cluster 4 tombs 1 and 2). At Gegharot, our test excavations were focused solely on the fortress, with operations set on the northern line of the citadel wall, the western terrace, and an extramural area just to the north. These operations were highly informative, shedding light on the sequences of occupations at each site and providing critical data on site taphonomy and preservation (Badalyan, Smith, and Avetisyan 2003; Badalyan et al. forthcoming).

Several small sondages were also excavated at smaller fortified sites. Single test trenches were excavated at the remote fortified outposts at Poloz-Sar, Ashot-Yerkat, and Tsilkar in the Pambak hills above Gegharot. In addition, two cromlech burials were examined on the far western border of our survey area, near Mantash Canyon (Mantash Burial Cluster 8 tomb 3). These investigations served to provide a geographic and temporal frame — a sense of depth at the outer margins of the Tsaghkahovit Plain — as context for the results of investigations in the interior.

The results of the test excavations did succeed in defining the basic occupational sequences and thus established the broad outlines of regional chronology through which the survey data could be interpreted. However, it was also clear that these test excavations, rather than being an extension of the regional survey, were in fact the initial stages of phase II of our investigations focused on more detailed accounts of society, economy, and politics within key sites. Thus in 2002, we inaugurated a program of excavation in the region, beginning with work at Tsaghkahovit and Gegharot fortresses. Because this work is still ongoing, the results of our excavations at the fortresses of the Tsaghkahovit Plain will be published in a future volume of the Project ArAGATS reports in order to keep our subsurface studies together. The excavations that we conducted in 1998 and 2000 at four cemeteries on the slope of Mount Aragats are, however, an exception to this general rule. The materials recovered from these excavations are provided here in concert with the description of the remains provided in the relevant place index entries. Since these excavations were specifically intended to illuminate the regional mortuary data acquired from the survey, they are included in this volume.

AN OVERVIEW OF ANALYTICAL PROCEDURES

We turned to pedestrian survey in order to provide a more encompassing description of the archaeological landscape of the Tsaghkahovit Plain and to provide the necessary materials for an analytical description of interactions between places. Since one of our primary goals was to describe regimes of local exchange, we inaugurated several lines of materials analysis in order to define local and inter-regional flows. Following the 1998 and 2000 field seasons, two lines of materials analyses were pursued utilizing survey data. First, obsidian samples from Tsaghkahovit and Gegharot fortresses and two Hnaberd burials were analyzed by x-ray fluorescence (XRF) for details of their composition.⁵⁸ The results were then compared to the geological signatures of known obsidian deposits in the South

⁵⁸ This analysis was performed in collaboration with J. Keller at the University of Albert-Ludwig, Freiburg, Germany.

Caucasus recently documented by Badalyan (2002). These analyses indicate the predominance of obsidians from two nearby sources: the Damlik Volcano in the Tsaghkunyats range, 15 km to the east, and the Arteni Volcano on the southwest periphery of the Aragats massif (pl. 3). The connections between the Tsaghkahovit Plain and the Tsaghkunyats sources were spatially rather immediate but would have nevertheless required exchange relationships with either neighbors to the northeast in the Lori-Pambak region or to the southeast with polities in the Kasakh River valley. Indeed the Tsaghkahovit Plain was a likely transshipment point for Tsaghkunyats obsidians known from pre-Urartian contexts in the Shirak Plain to the west (Horom and Harich). The Arteni source is comparatively distant and materials would most likely have been brought to the Tsaghkahovit Plain via the Shirak Plain. Arteni obsidians are well attested in Shirak Plain sites.

In a second line of analysis, two Late Bronze Age metal samples from Mantash Burial Cluster 8 tomb 3 were submitted to the Institut für Archäometrie at the Technische Universität Bergakademie in Freiberg for compositional study using XRF. Both samples contained significant amounts of tin, suggesting, albeit from a very small preliminary sample, that the region was also integrated into more far-ranging resource exchange networks than indicated by the obsidian source data. These results suggest that the Tsaghkahovit region polities during the Late Bronze Age participated within exchange networks that looked both northeast, across the Pambak range, and west, beyond the Shirak Plain, for materials and resources. In addition, the Pambak range itself holds considerable deposits of copper ore and evidence of mining as early as the third millennium B.C. (at Fioletovo in the Lori Valley). A geological survey in the Pambak hills above Gegharot undertaken in 2000 in collaboration with our survey noted the existence of potentially exploitable copper sources.

In a third line of compositional analysis, five clay samples and 277 ceramics from Tsaghkahovit, Gegharot, Aragatsiberd, and Hnaberd Fortresses were submitted to the Phoenix Memorial Laboratory at the University of Michigan for Instrumental Neutron Activation (INA) analysis under the supervision of Leah Minc (see *Chapter 8*). These initial analyses have allowed us to characterize regional variation in natural clay composition within the Tsaghkahovit Plain and to identify major areas of ceramic production during the Late Bronze Age. Furthermore, INA analysis has allowed us to model the uneven flow of ceramics (and more importantly, their contents) among these contemporary Late Bronze Age fortified settlements.

NOTES ON PERIODIZATION

Project ArAGATS employs a dual system for classifying artifacts into discrete archaeological periods. The first is a traditional system divided into the defined phases of regional chronology, such as Middle Bronze I or Late Bronze III. This is a highly specific system of periodization that relies upon a small number of diagnostic features for classification (see *Chapter 4*). As a result, within a given corpus of materials, such as ceramics, only one or two sherds may actually be diagnostic to this level of specificity. However, a far larger percentage of a ceramic corpus may be assigned more broadly to one of the major horizons or even across several horizons. Hence materials, particularly ceramics, can be categorized according to groups of phases. The specific and group designations utilized by Project ArAGATS are shown in table 1.

Group designations are referred to by the associated letter, thus group J materials, for example, are known from archaeological contexts dating to the Iron 2b (late Urartian) period through the end of the Iron 3 (Achaemenid–early Hellenistic) phase. The group system is particularly useful in that it makes far better use of ceramics that might otherwise be dismissed as non-diagnostic by redefining the parameters of identification to more adequately reflect the real continuity of material traditions in some periods and the limitations of archaeological knowledge. By combining group and specific systems, we achieve a more realistic account of extant material sequences than if we used the specific system alone. Nevertheless, it is important to keep in mind when working with the place index in *Chapter 6* the limitations that inhere in trying to date subsurface features on the basis of limited surface collections and surface architecture alone.

Table 1. Periodization Systems Employed by Project ArAGATS: Specific and Group

SPECIFIC SYSTEM

Neolithic
 Chalcolithic
 Early Bronze Age (I–III)
 Middle Bronze Age (I–III)
 Late Bronze Age (I–III)
 Iron I
 Iron II
 Iron III
 Iron IV
 Medieval
 Modern

GROUP SYSTEM

A. Late Bronze I–Iron I
 B. Late Bronze III–Iron I
 C. Iron IIIa–Medieval
 D. Late Bronze I–III
 E. Late Bronze I–Iron III
 F. Late Bronze I–Iron II
 G. Iron Ib–Iron III
 H. Iron I–Iron II
 I. Iron IIb–Medieval
 J. Iron IIb–Iron IIIa
 K. Iron Ib–Iron IIIa
 L. Iron I–Iron IIIa
 M. Iron IIIb–Medieval
 N. Late Bronze I–Iron I
 O. Discontinued
 P. Discontinued
 Q. Arsacid–Medieval
 R. Iron IIIa–Iron IIIb
 S. Iron IIIb–Iron IV

NOTES ON THE PLACE INDEX

In presenting the places documented by pedestrian regional survey (*Chapter 6*) and remote sensing analysis (*Chapter 7*), several classificatory conventions and standard abbreviations are employed. Periodization abbreviations (table 1) follow the basic parameters established in *Chapter 4*. We also employed a basic concatenated system of place numbering in which the first two letters serve as a project identifier (Ar = ArAGATS), followed by a two-letter quadrant abbreviation, followed by the number of the transect that located the spot, and finally the place number on that transect. Thus place number Ar/Ap.07.01 defines the first place located on transect 7 in the Aparan quadrant within the ArAGATS survey. The quadrant abbreviations employed are as follows:

Ap = Aparan survey quadrant

Bd = Berdidosh survey quadrant

Ge = Gegharot survey quadrant I

GK = Gegharot Kurgans survey quadrant

Hn = Hnaberd survey quadrant

Jj = Jarjaris survey quadrant

Ko = Kolgat survey quadrant

Lp = Lernapar survey quadrant

Ma = Mantash survey quadrant

Sk = Sahakaberd survey quadrant

Ts = Tsaghkahovit survey quadrant

Vb = Vardablur survey quadrant

Most of the feature designations are self-explanatory, with the possible exception of the term “burial cluster.” We adopt this term due to an uncertainty as to what delineates a “cemetery” in the context of the ancient Tsaghkahovit Plain. One possibility of course is that the entire north slope of Mount Aragats constitutes a single vast necropolis — a single cemetery unified by its perceived relationship between worlds of the living and the dead. Spatial variability, in this view, would be far less important than the general relationship to the mountain and the settlements. Alternatively, each discrete cluster of burials could constitute a cemetery in its own right, unified by the social relationships of the interred (e.g., family plots). We do not as yet have a sufficient archaeological basis for understanding the principles behind burial clustering in the region, but it is certainly possible that each discrete space expressed and reinforced lines of social difference, including kin or status. Thus we adopt the more neutral term “burial cluster” to emphasize the fact that the principles organizing the mortuary landscape — social or religious — remain unknown.

However, we did find during our survey that the range of variability in burial form demanded more systematic description. We thus developed a typology of mortuary styles that is particularly detailed in elaborating variable styles of cromlech construction, since that burial form constitutes the vast majority of the remains encountered. The primary burial forms are illustrated in figure 34 and may be summarized as follows:

- Cist: A small, compact construction of small cobbles, usually no larger than 2 m on a side.
- Cromlech: In its most basic form, a cromlech consists of a circle of stones surrounding a subterranean burial chamber. But the simplicity of cromlech architecture appears to conceal a considerable amount of architectural heterogeneity. As a result, we subdivided the ubiquitous cromlech based on our investigations into nine formal types.⁵⁹
 - Standard: One or more circumferential rings of stone blocks surrounding several large capstones.
 - Spiral: Spiraled concentric rings of stone blocks spin into a center marked by medium-sized capstones.
 - Mounded: Single circumferential ring of stone blocks surrounds a low earthen mound.
 - Budding: Multi-chambered construction with a large primary standard cromlech and a conjoined smaller secondary standard cromlech that employs several of the same stones in constructing the outer ring. This can be a problematic type as apparently conjoined chambers of a single interment can also be superimposed unrelated constructions.
 - Paved: Single outer ring circumscribes an interior built of tightly interlocked capstones.
 - Bedrock: Natural rock outcrops are incorporated, either worked or unworked, into the outer ring of the cromlech.
 - Stepped: Several concentric rings of stone blocks are vertically stepped moving toward the interior capstones.
 - Cobble: Instead of stone blocks, the outer ring of this style of cromlech is built of small packed cobbles surrounding either a large capstone(s) or, on occasion, an empty center.
- Cruciform: Similar to a cist in construction but substantially larger. Densely packed cobbles form a cruciform shape.
- Dolmen: Chamber defined by rectangular stone blocks set on ground level with a single large roof-stone.
- Kurgan: Raised tumulus of either earth or small stone cobbles. It may include an interior cromlech of stone blocks as well.⁶⁰

⁵⁹ “Cromlech” is a Brythonic (Breton/Welsh) term which can be translated literally as “bent” (*crom-*) “flagstone” (*-llech*). The term was originally employed in British archaeology (e.g., Wilson 1862) to designate burial monuments, while in Brittany archaeologists used the term to designate circles of standing stones. In the nineteenth century, British archaeologists exported the term widely, with reports of cromlechs as far afield as India (Cole 1869). While the term is now

archaic in most European contexts, it made its way to the Soviet Union in the early twentieth century where it was used exclusively in the British sense to designate tombs circumscribed by a ring of stones. A likely source of the term is V. Gordon Childe, whose work was read extensively across the U.S.S.R.

⁶⁰ “Kurgan” is a Russian term generally synonymous with “tumulus” or “barrow.”

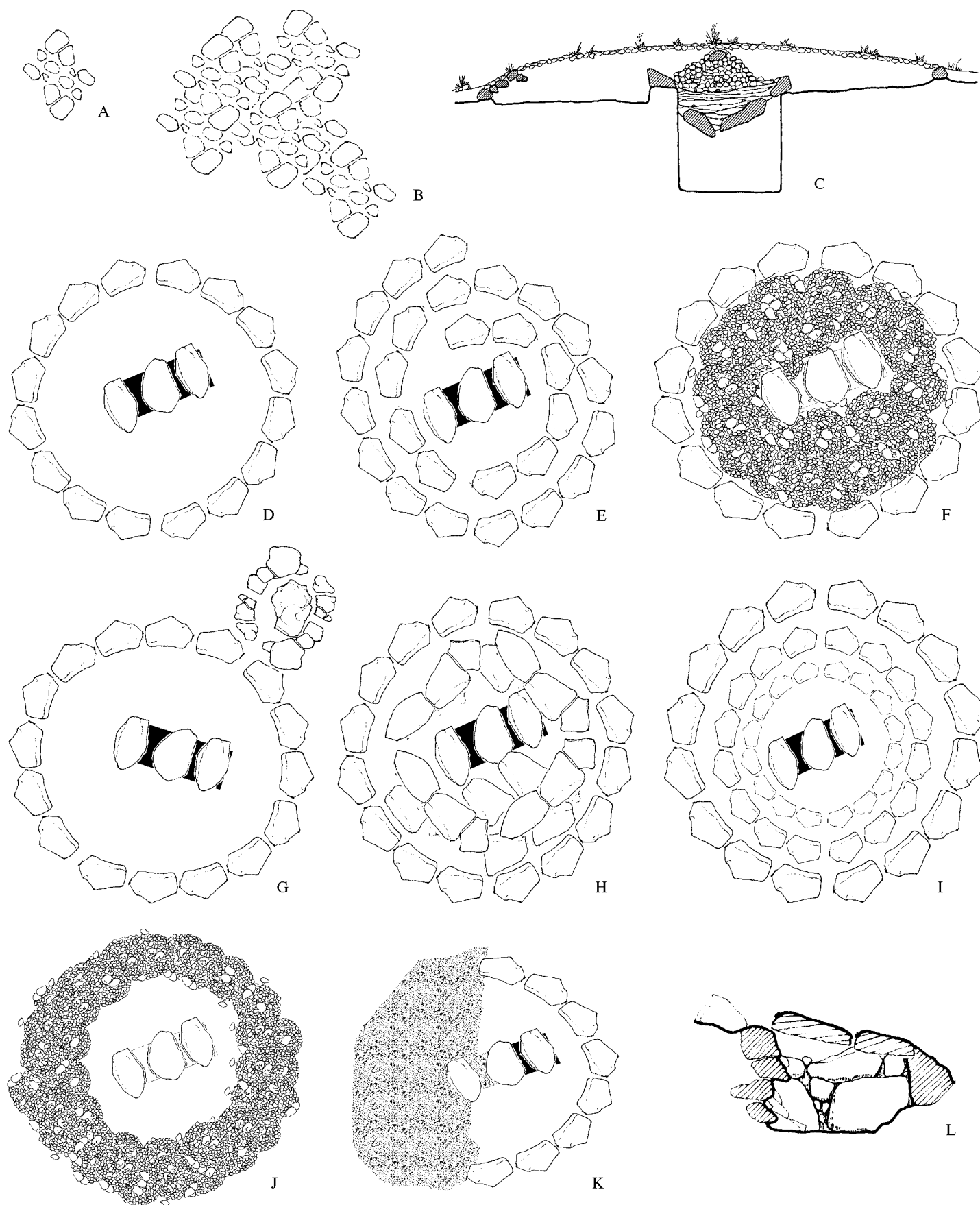


Figure 34. Stylized Burial Types of the Tsaghkahovit Plain:

(a) Cist Burial; (b) Cruciform Burial; (c) Kurgan (cross section); (d) Standard Cromlech; (e) Spiral Cromlech; (f) Mounded Cromlech; (g) Budding Cromlech; (h) Paved Cromlech; (i) Stepped Cromlech; (j) Cobble Cromlech; (k) Bedrock Cromlech; (l) Dolmen (cross section)

It is important to point out that these are ideal types and not exclusive designations. Thus, we often found combinations of the most distinctive features of the above styles employing, for example, a paved burial interior within stepped outer rings. Moreover, some of the variability captured in this rough typology may express phases in the post-depositional life of a burial rather than distinctive construction styles. Hence it is possible that the cobble style, for example, is simply a kurgan that has been robbed, causing the center of the construction to deflate and its edges to constrict.

Two other categorical terms warrant further explication. The first is our use of the term “corral” to designate the informal circular constructions found scattered across the north slope of Mount Aragats and, less often, the east flank of Mount Kolgat. The term is quite obviously a functional designation and so is perhaps a bit premature in its application given the complete lack of subsurface investigation that has been done at any of the structures. Our use of the term developed initially from an ethnographic analogy that was immediately at hand as we passed similar structures still used by shepherds today to contain their herds. As our work continued, the shorthand term “corral” seemed apropos, as the collection of curvilinear informal structures documented by the survey grew significantly in number. We continue to employ the term here as architecturally and ethnographically evocative, although we do not have clear archaeological results to support it as a functional designation.

Second, we use the terms “canal” and “canal trace” to designate related but archaeologically distinct remains. While both designate elements in the remarkable fluvial networks that constrain the flow of water, the term “canal” designates a built linear feature while “canal trace” designates an unbuilt feature visible only as a linear depression. Canal traces are generally readily differentiated from natural watercourses based on their position (usually cutting across the mid-flank of a hill) and rigid linearity.

The stone architecture documented by the Project ArAGATS survey in the Tsaghkahovit Plain demanded a terminology for describing variations in masonry. The most obvious line of variability is the size of stones employed. Using the length of a construction stone (that is, its longest axis) as our key, we utilize the following terminology to describe construction stone size:

Pebble	=	0–10 cm
Cobble	=	10–20 cm
Small block	=	20–30 cm
Medium block	=	30–50 cm
Large block	=	50 cm or larger

Another critical component of architectural variability is the extent of working.

Unworked	
Shaped:	Single face modified
Lightly worked:	All surfaces slightly modified
Worked:	All surfaces extensively modified
Dressed:	Well-carpentered, flat-sided stones

The first four categories are all degrees of manufacture in the production of rubble masonry with rough stones while the last is the basis for ashlar masonry set in even, well-defined courses.

The locations of sites in the catalog are provided in two formats: UTM and degrees with decimal minutes. An important change in the accuracy of GPS navigation signals occurred between the two seasons of survey. Since the inception of the GPS program, the U.S. military had included in the civilian signal unpredictable errors (known as selective availability) which created intentional inaccuracies in location calculations of up to 10 m horizontally (in addition to the inherent sources of error attributable to technological and atmospheric issues). Thus the sites recorded in 1998 (Tsaghkahovit, Sahakaberd, and Hnaberd quadrants) have built into the published locations an error which likely ranges from 15 to 20 m. On May 1, 2000, the U.S. government discontinued the use of selective availability and as a result the GPS locations from the 2000 survey are considerably more accurate, with errors that likely range from 5 to 10 m. Elevations are the most inaccurate of the geographic information provided, although every effort has been made to correlate positional data with existing topographic maps of the region to provide a more accurate reading. Each entry in the place index is referenced to a map quadrant within the overall regional grid displayed in plate 12. Detailed maps of the quadrants where archaeological remains were found are provided in plates 13–24 as detailed in table 2.

Table 2. Key to Quadrant Maps

Plate 13	Grid Quadrant B1
Plate 14	Grid Quadrant B2
Plate 15	Grid Quadrant B3
Plate 16	Grid Quadrant B4
Plate 17	Grid Quadrants B5–B6
Plate 18	Grid Quadrant C4
Plate 19	Grid Quadrant C5
Plate 20	Grid Quadrants D1–D2
Plate 21	Grid Quadrant D4
Plate 22	Grid Quadrants D5–D6 (Jarjaris Survey Quad)
Plate 23	Grid Quadrants E/F2–E/F3 (Lernapar and Berdidosh Survey Quads)
Plate 24	Grid Quadrants E4–E5 (Gegharot Survey Quad)

Many of the entries in the *Place Index* include profiles of particular features. When faced with the extraordinary quantity of burials within the survey area, we were faced with the difficult decision of whether to document each one exhaustively (and thus commit to spending several more years on survey) or provide documentation only for the cluster as a whole. We opted for a compromise strategy, recording burials that lay directly on a transect and those within a cluster that were useful either as textbook illustrations of certain types of mortuary architecture or as unique variations. These are included in the *Place Index* as “associated features.”

One note should also be made regarding the material descriptions provided for the ceramics recovered by the survey. Because the materials were from the surface are usually considerably weathered, a decision was made to not provide detailed Munsell colors for each sherd but rather to group them into the general color groups that predominate in the regional corpus: black, brown, gray, orange, and red.

CONCLUDING NOTE

Both the goals and methods that continue to set the agenda for the investigations of Project ArAGATS were developed as a collaboration between the American and Armenian co-directors and participants. Our findings thus emerge from a hybridization of American and Armenian (née Soviet) scholarly traditions. If there is such a thing as a post-colonial archaeology (a model of research much anticipated in theory, but perhaps yet unrealized in practice) that is to follow upon the bygone era of colonial *firmands* and imperial fiat, then it must lie in hybridization. But hybridization is a process, not a result. It cannot set the agenda, but it does provide a means to define an agenda.

CHAPTER 6

PLACE INDEX

ADAM T. SMITH AND ALAN GREENE

ARTIFACT SCATTERS

GEGHAROT QUADRANT

ARTIFACT SCATTER 1

PLACE NUMBER	Ar/Ge.00.02	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,127
UTM EASTING	434057	LATITUDE	44° 13.163'
UTM NORTHING	4506288	LONGITUDE	40° 42.406'
PERIODIZATION	Neolithic/Chalcolithic		

ASSOCIATION

This artifact scatter was discovered in 2005 by a French-Armenian research team investigating Paleolithic sites along the Kasakh River valley. The scatter was found on the northern outskirts of Gegharot village (map quadrant E4b).

TOPOGRAPHY

These artifacts were discovered at the terminus of an eroded sand-filled gully, a wash that may have served as a key headwater of the Kasakh River prior to the construction of the modern village.

GENERAL DESCRIPTION

The site consists of a small lithic debris scatter which was augmented by a small test sounding in the area (1.0 × 1.0 × 1.5 m). In total, the site yielded sixty-seven lithic artifacts including nuclei, retouched flakes, blades, and microblades. Most are of obsidian although small numbers of quartzite, basalt, and flint artifacts were also recovered.

ASSOCIATED FEATURES AND MATERIALS

The retouch technique employed on the lithic materials has led the excavators to suggest that their closest parallels are with assemblages from sites dating to the Neolithic and Chalcolithic. The spread of materials within the wash and the lack of clear evidence for a living surface may suggest that the materials recorded come from a site farther up the gully, into the Pambak foothills. Alternatively, they may well be eroding out in place. Nevertheless, it seems likely that they represent a small campsite along the route between the Ararat Plain and the Lori Valley that followed the Kasakh River (Gasparyan 2005).

TSAGHKAHOVIT QUADRANT

ARTIFACT SCATTER 1

PLACE NUMBER	Ar/Ts.00.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,198
UTM EASTING	434455	LATITUDE	44° 13.501'
UTM NORTHING	4497450	LONGITUDE	40° 37.631'
PERIODIZATION	Neolithic		

ASSOCIATION

This scatter was discovered in association with a small rock shelter in an outcrop known locally as Megara Tepe which it shares with Tsaghkahovit Burial Clusters 74, 75, and 76 (map quadrant B4o).

TOPOGRAPHY

The entrance to the rock shelter lies on the southern upper flank of the outcrop. Project ArAGATS noted the cave in 1998 on its survey, but no surface materials were found. The French-Armenian Kasakh River valley team returned to the site in 2006, opening a small sondage in the area which detected five stratified soil levels.

GENERAL DESCRIPTION

Deposits in the sondage yielded primarily obsidian flakes and debitage although a few artifacts of dacite were also found, as were a few animal bones. A total of 219 lithic artifacts were recorded (Gasparyan 2006).

ASSOCIATED FEATURES AND MATERIALS

The relatively small corpus of retouched lithics (thirteen) have led the excavators to tentatively suggest parallels with industries of the pre-ceramic Neolithic and the Shulaveri-Shomu culture of the late sixth/early fifth millennium B.C., although a clearer chronological assessment must await further investigation (Gasparyan 2006).

BURIAL CLUSTERS

APARAN QUADRANT

BURIAL CLUSTER 1

PLACE NUMBER	Ar/Ap.06.03	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,212
UTM EASTING	439808	LATITUDE	40° 37.902'
UTM NORTHING	4498118	LONGITUDE	44° 17.341'
PERIODIZATION	Late Bronze/Iron I, Modern		

ASSOCIATION

Site is 1.1 km southeast of Korbulag village and 0.62 km east of Shenkani Bog near the eastern boundary of the Mount Aragats survey area (map quadrant C5d).

TOPOGRAPHY

This cluster of burials is located atop a gently rising hill on a terminal northeast spur of Mount Aragats.

GENERAL DESCRIPTION

This burial cluster covers the entire western slope of the hill. It consists of over twenty cobble and stepped cromlechs as well as several modern cist burials. Several of the burials appear to be disturbed by field-clearing activity.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a medium cobble cromlech 2.7 m in diameter. On the southern edge of the construction, several stones have been disturbed. The construction is only slightly mounded.

Feature 2 is a more modern burial with a northwest–southeast orientation. It is oblong in shape and mounded with tuff and basalt cobbles.

BURIAL CLUSTER 2

PLACE NUMBER	Ar/Ap.10.02	ILLUSTRATION	Pls. 17, 77c
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,211
UTM EASTING	438662	LATITUDE	40° 37.773'
UTM NORTHING	4497889	LONGITUDE	44° 16.483'
PERIODIZATION	Middle Bronze or Late Bronze/Iron I		

ASSOCIATION

Site is located 0.67 km south of Korbulag village (map quadrant B5o).

TOPOGRAPHY

The burial cluster sits in a narrow valley at the base of a bedrock outcrop that rises to the west.

GENERAL DESCRIPTION

This small burial cluster contains one kurgan and a single very large mounded cromlech.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a kurgan 7.1 m in diameter with an earth and cobble mound that rises approximately 30 cm above the surrounding ground surface. The preservation appears to be very good as there is no evidence of disturbance.

Feature 2 (pl. 77c) is a large mounded cromlech 7.1 m in diameter. There is some evidence of disturbance in the area. It is therefore possible that this feature was once a kurgan, but lost a significant part of the mound that once covered it.

GEGHAROT QUADRANT

BURIAL CLUSTER 1

PLACE NUMBER	Ar/Ge.08.01	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,127
UTM EASTING	434928	LATITUDE	40° 43.119'
UTM NORTHING	4506560	LONGITUDE	44° 13.721'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Gegharot Burial Cluster 1 is located 1.23 km north–northeast (bearing 19°) of Gegharot Fortress, along the lower southern approach to Ashot-Yerkat (0.87 km, bearing 178°) (map quadrant E4g).

TOPOGRAPHY

This cluster of cromlechs is located on a steep slope near the intersection of the foot of the Pambak range and the Tsaghkahovit Plain.

GEGHAROT QUADRANT (*cont.*)

GENERAL DESCRIPTION

This large cluster of more than thirty-five standard, paved, and stepped cromlechs extends 65 m north–south × 60 m east–west. As the tombs move up the slope of the mountain, they become more tightly packed, suggesting that the earlier burials were set on the lower limits of the cluster while the later burials built upslope were forced to crowd as space within the cluster became more restricted. Unfortunately, erosion has taken a severe toll, disturbing each of the visible tombs to varying degrees.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 2

PLACE NUMBER	Ar/Ge.07.01	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,350
UTM EASTING	434884	LATITUDE	40° 43.116'
UTM NORTHING	4507806	LONGITUDE	44° 13.741'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Gegharot Burial Cluster 2 is 0.6 km south of Ashot-Yerkat and 1.48 km northeast of Gegharot Fortress (bearing 12°). The site is just north of Gegharot Burial Cluster 1 (map quadrant E4g).

TOPOGRAPHY

Like most of the burial clusters in the foothills of the Pambak range above Gegharot, this group is set on a steep southeast-facing slope along one of the approaches to Ashot-Yerkat Fortress. The ground cover is thin or non-existent leaving a series of highly eroded bedrock outcrops.

GENERAL DESCRIPTION

This sprawling cluster of cromlechs stretches across an area approximately 65 m east–west × 200 m north–south. Despite its extent, at present it contains an estimated fifteen to twenty bedrock-style cromlechs. Given its position on a steep eroded slope, it is quite possible that some burials were destroyed. The cromlechs are not particularly sizable, ranging where measurable between 3.0 and 5.5 m.

ASSOCIATED FEATURES AND MATERIALS

No surface materials. Burial construction in this cluster appears to have been opportunistic, utilizing the bedrock outcrops as part of the outer circle of stones. The stones within the outer ring are generally small blocks of worked granite while the capstones range more broadly in size from medium flat blocks to large, unworked boulders.

Feature 1: As with most of the burials in this cluster, this bedrock cromlech envelopes an outcrop of natural rock, incorporating it into the design of the tomb.

BURIAL CLUSTER 3

PLACE NUMBER	Ar/Ge.04.02	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2448
UTM EASTING	434739	LATITUDE	40° 43.400'
UTM NORTHING	4508333	LONGITUDE	44° 13.635'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This burial cluster is located just below Ashot-Yerkat Fortress (0.19 km to the southwest) and 0.55 km east of Tsilkar Fortress (map quadrant E4k).

TOPOGRAPHY

The burials are set near the summit of the first line of the Pambak hills. The immediate slope is far less steep than the approaches to the south and east. Nevertheless, the outcrop is highly weathered with numerous bedrock outcrops and very thin to non-existent soil deposits.

GENERAL DESCRIPTION

This cluster of standard cromlechs is set among strewn boulders and bedrock outcrops. The burial installations blend in well with very rocky surroundings and as a result it is difficult to provide either a general count of the burials or an assessment of the level of disturbance. Many of the cromlechs do appear to have been partially destroyed. On this highly weathered slope such impacts were most likely from weathering and erosion.

ASSOCIATED FEATURES AND MATERIALS

Despite the clear disturbance of the burials, no surface materials were found.

BURIAL CLUSTER 4

PLACE NUMBER	Ar/Ge.13.01	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,384
UTM EASTING	435191	LATITUDE	40° 43.407'
UTM NORTHING	4508342	LONGITUDE	44° 13.956'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster of cromlechs is located 0.28 km of Ashot-Yerkat (bearing 103°) and 2.06 km (bearing 17°) of Gegharot Fortress (map quadrant E4k).

TOPOGRAPHY

Like the other burial clusters located on the approaches to Ashot-Yerkat, Gegharot Burial Cluster 4 is set on a steep eroded, southeast-facing slope. The terrain drops dramatically into the ravine below.

GENERAL DESCRIPTION

Gegharot Burial Cluster 4 includes approximately four to eight burials, but the extent of the site is extremely hard to reconstruct. The steep slope and intense erosion appear to have profoundly impacted the preservation of the tombs. As a result, the cluster does not appear to be very discrete or compact and our counts are highly conservative. Many burials appear to have been completely or partially destroyed. Bedrock outcrops and fallen boulders also obscure efforts to determine the precise arrangement and number of burials. Standard- and bedrock-style cromlechs were recorded in this cluster. Most are small to medium in size, ranging from 3 to 5 m in diameter.

GEGHAROT QUADRANT (*cont.*)

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1: The upslope arc of the outer ring of this cromlech utilized the natural bedrock, although it may have been shaped slightly. The downslope arc of the outer ring was built of medium, shaped blocks. The ring defines a diameter of 4.7 m east–west \times 4.8 m north–south. The single visible capstone measures 0.6 \times 0.4 m. A broad scatter of small cobbles down hill from the burial suggest strongly that there might once have been a cobble mound that was subsequently washed away.

BURIAL CLUSTER 5

PLACE NUMBER	Ar/Ge.23.02	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,280
UTM EASTING	435659	LATITUDE	40° 43.213'
UTM NORTHING	4507977	LONGITUDE	44° 14.286'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This burial cluster is located between the fortresses of Poloz-Sar (1.23 km east, bearing 270°) and Ashot-Yerkat (0.85 km northeast, bearing 120°) (map quadrant E4h).

TOPOGRAPHY

Typically for the group of burial clusters east of the ridge linking Gegharot Fortress and Ashot-Yerkat, this group of tombs was built on a steep slope. The south-facing slope is less visibly eroded than the east-facing slopes that host Gegharot Burial Clusters 4 and 5, but it is still pockmarked with sharp exposures of bedrock.

GENERAL DESCRIPTION

This cluster of burials is very large, extending over 200 m east–west, but the burials are broadly spaced. Between thirty and thirty-five cromlechs were identified in between the outcrops of bedrock. Erosion appears to have scoured most of the outer rings of the cromlechs, in some cases displacing construction stones. However, the impact of this formation process appears to be considerably less than in neighboring burial clusters. The cromlechs are primarily of the standard type, but occasional bedrock cromlechs were also recorded.

ASSOCIATED FEATURES AND MATERIALS

Remarkably, a very small collection of surface materials was recovered in a small scatter at this site, including four pieces of obsidian and a single Late Bronze/Iron Age I ceramic.

Feature 1: This standard-style cromlech is quite unique among the Gegharot survey quadrant clusters as it was set atop a small constructed terrace. A small wall running between two bedrock outcrops appears to have provided the means to slightly level the terrain prior to construction of the cromlech. The outer ring is elliptical, extending 3.0 m north–south \times 2.75 m east–west, and is constructed of shaped, medium granite blocks. The capstones are also modestly sized in contrast to other burials, many of which have capstones that reach 50 cm in diameter.

BURIAL CLUSTER 6

PLACE NUMBER	Ar/Ge.31.01	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M.A.S.L.)	2,395
UTM EASTING	436149	LATITUDE	40° 43.334'
UTM NORTHING	4508196	LONGITUDE	44° 14.638'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Gegharot Burial Cluster 6 is located 0.77 km northwest (bearing 287°) of Poloz-Sar (map quadrant E5i).

TOPOGRAPHY

This burial cluster is located on the southern slope of the same Pambak Hill as Gegharot Burial Cluster 5, but the location is more gently sloped and considerably less rocky. The more significant soil deposits and less intense erosion seem to have contributed substantially to the overall preservation of the burials. But outcrops of exposed granite are still visible between the burials.

GENERAL DESCRIPTION

Gegharot Burial Cluster 6 is approximately 150 m in extent from east to west and 25 m north to south. The group includes between thirteen and eighteen standard-style cromlechs distributed evenly across the site. Compared to the installations in nearby Gegharot Burial Cluster 5, these cromlechs are significantly larger and more carpentered. They vary in size from approximately 3.5 m to almost 8.0 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a standard cromlech 4.6 m in diameter north–south × 4.1 m east–west. The burial is slightly unusual in that it is constructed with two circumscribed outer rings. The masonry of the ring is of slightly worked granite blocks, but no capstones are visible.

BURIAL CLUSTER 7

PLACE NUMBER	Ar/Ge.36.01	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,393
UTM EASTING	436916	LATITUDE	40° 43.450'
UTM NORTHING	4507843	LONGITUDE	44° 15.185'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 2.78 km northeast (bearing 58°) of Gegharot Fortress and just 0.14 km south of Poloz-Sar Fortress (bearing 169°), Gegharot Burial Cluster 7 is the easternmost of the Gegharot survey quadrant clusters (map quadrant E5e). It is also the most isolated, far removed from the areas of greater density around Ashot-Yerkat and Tsilkar Fortress.

TOPOGRAPHY

This place is located on the steep southeastern approach to Poloz-Sar. Yet the area does not appear to have suffered the same degree of erosion and deflation as the hill slopes between Poloz-Sar and Ashot-Yerkat.

GENERAL DESCRIPTION

Situated directly below the walls of Poloz-Sar, this extensive burial cluster extends approximately 150 m east–west in a rather thin band along the contour of the hill. The approximately twenty-five standard cromlech burials range in size from 2 to 6 m in diameter and are set 4–5 m apart.

GEGHAROT QUADRANT (*cont.*)

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a large standard cromlech, 6.3 m in diameter north–south \times 6.1 m in diameter east–west. The massive granite boulders used as capstones are particularly notable. The visible portions of these capstones measure $1.40 \times 0.80 \times 0.70$ m and $1.80 \times 0.60 \times 0.55$ m.

BURIAL CLUSTER 8

PLACE NUMBER	Ar/Ge.52.01	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,196
UTM EASTING	433919	LATITUDE	40° 42.777'
UTM NORTHING	4507185	LONGITUDE	44° 13.059'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Gegharot Burial Cluster 8 is a somewhat isolated cluster of cromlechs 1.04 km northwest (bearing 322°) of Gegharot Fortress, roughly equidistant from Gegharot and Tsilkar villages (map quadrant E4f).

TOPOGRAPHY

Located on a gentle slope that today hosts a tree farm, the isolation of Gegharot Burial Cluster 8 may be a result of surrounding amelioration projects. The cluster of cromlechs lies just beyond the eastern limits of the deeply furrowed rows of the planted trees. Indeed the entire burial cluster appears to have been highly disturbed, but the gentle slope and significant soil deposits suggest the place has been impacted more by recent amelioration than by continuous erosion or deflation.

GENERAL DESCRIPTION

The disturbance within this cluster makes a general count quite difficult. It appears to extend for approximately 110 m north–south, but only six to seven clear cromlechs can be discerned with certainty. All the visible cromlechs are standard-style constructions and some appear to be quite large, exceeding 7 m in diameter. The dense scatter of large boulders strewn across the area suggests that bulldozers were used to grade the area and in the process destroyed a significant number of tombs.

ASSOCIATED FEATURES AND MATERIALS

No surface material.

Feature 1 is a large cromlech built of worked granite blocks. The single outer ring, 7.6 m in diameter north–south, is destroyed on its upslope (east) half. The capstones consist of two large granite, roughly rectangular stones $1.55 \times 0.35 \times 0.60$ m and $1.50 \times 0.6 \times 0.6$ m respectively.

BURIAL CLUSTER 9

PLACE NUMBER	Ar/Ge.55.02	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,304
UTM EASTING	434573	LATITUDE	40° 42.937'
UTM NORTHING	4507475	LONGITUDE	44° 13.521'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 1.11 km north (bearing 1°) of Gegharot, this burial cluster is one of a band of burial clusters that encircle the slopes below Tsilkar and Ashot-Yerkat between the 2,200 and 2,350 m contours (map quadrant E4g).

TOPOGRAPHY

Dispersed along a moderate slope littered with fallen boulders and bedrock outcrops, the surrounding terrain reveals considerable evidence of erosion and deflation, but it is unclear to what extent this has disturbed the site.

GENERAL DESCRIPTION

Fallen rocks obscure the surface making a count of the burials within this cluster difficult. Nevertheless, forty-five burials were clearly identifiable with many more only faintly discernible. Overall, the burials are not closely packed, but they stretch almost 500 m along a spur of Mount Tsilkar above Gegharot Fortress. Several cromlechs were constructed atop prepared platforms or terraces. The visible constructions include a wide range of forms, including standard, stepped, bedrock, mounded, and spiral.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a bedrock cromlech 2.9 m in diameter. A small terrace built of unworked cobbles provides a flat surface for the tomb which is built of a partial ring of small stone blocks. Shaped bedrock was used to complete the ring on the upslope (east) side.

Feature 2 is a spiral cromlech constructed of large, rounded, unworked granite boulders. The stones swirl from the southern exterior in three rings to the center of the construction, getting progressively smaller closer to the interior. The tomb is 3.3 m in diameter north-south × 3.2 m in diameter east-west.

BURIAL CLUSTER 10

PLACE NUMBER	Ar/Ge.61.01	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,380
UTM EASTING	434544	LATITUDE	40° 43.019'
UTM NORTHING	4507629	LONGITUDE	44° 13.500'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 1.62 km due north (bearing 0°) of Gegharot Fortress and 0.70 km southeast (bearing 331°), this small cluster is just 150 m north of Gegharot Burial Cluster 9 (map quadrant E4g). It is quite possible that Gegharot Burial Cluster 10 is, in fact, an extension of Gegharot Burial Cluster 9, their separation created by subsequent taphonomic processes.

TOPOGRAPHY

Built atop a low ridge that dips into ravines to the east and west, the area appears to be less deflated than other surrounding places.

GEGHAROT QUADRANT (*cont.*)

GENERAL DESCRIPTION

Gegharot Burial Cluster 10 is a small cluster of cobble and standard cromlechs. The standard cromlechs are built of granite and basalt blocks. The cobble burials are constructed of mounded rings of granite cobbles. The entire cluster extends from north to south along the ridge for only 110 m.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a cobble cromlech 2.1 m in diameter. It is built of a mounded ring of cobbles surrounding a depressed interior. No capstones are visible.

BURIAL CLUSTER 11

PLACE NUMBER	Ar/Ge.63.01	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,291
UTM EASTING	433963	LATITUDE	40° 43.067'
UTM NORTHING	4508069	LONGITUDE	44° 13.066'
PERIODIZATION	Middle Bronze(?), Late Bronze/Iron I		

ASSOCIATION

Located 0.81 km northeast (bearing 61°) of Tsilkar village and 0.29 km southwest (bearing 236°) of Tsilkar Fortress, Gegharot Burial Cluster 11 is one of a series of burial clusters set on the latter's southwest approach (map quadrant E4f).

TOPOGRAPHY

Gegharot Burial Cluster 11 is located on a gentle south-facing slope below Tsilkar Fortress, including a small triangular promontory above Tsilkar village cut by shallow ravines on both sides. The area has been significantly impacted by rows of recently planted trees set in deep furrows and by the seasonal water run-off through the adjacent ravines. Large flat stones resembling disturbed capstones litter areas of the cluster.

GENERAL DESCRIPTION

This burial cluster is composed of two formally distinct sections that together extend approximately 240 m north–south × 125 m east–west (at widest point). At the end of the promontory are three to four superimposed kurgans clustered tightly atop one another. Adjacent to this area, to the immediate north, is a field of cromlechs, including both standard and mounded styles. Within this section of the burial cluster, small linear walls terrace the slope, providing level terrain for tomb construction and effectively defining architecturally discrete areas.

ASSOCIATED FEATURES AND MATERIALS

A broken retouched obsidian tool (likely a blade) was found within the area of feature 2.

Feature 1 is the topmost kurgan at the tip of the promontory. All the kurgans are built of small granite, basalt, and tuff cobbles mounded approximately 0.7 m above the surrounding ground surface. This kurgan — the only one entirely visible — is 6.75 m in diameter.

Feature 2 is a circular terrace 28.5 m in diameter with at least six to nine visible cromlechs set atop it. The cromlechs are not large — generally 3.5–4.0 m in diameter — and are tightly packed in the limited area between large exposures of weathered bedrock.

BURIAL CLUSTER 12

PLACE NUMBER	Ar/Ge.71.01	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,308
UTM EASTING	433882	LATITUDE	40° 43.286'
UTM NORTHING	4508131	LONGITUDE	44° 13.028'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster of burials is located on the southwest approaches to Tsilkar Fortress (0.34 km, bearing 253°), between Gegharot Burial Cluster 11 and Gegharot Burial Cluster 13 (map quadrant E4f).

TOPOGRAPHY

These cromlechs are set on a moderate southwest slope pockmarked with eroding bedrock outcrops.

GENERAL DESCRIPTION

Gegharot Burial Cluster 12 is a small group of only three to five standard cromlechs. It is possible that the area once hosted more burials that were destroyed by the eroding slope. The few that survive today are set on small platforms formed by stone terracing walls.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 13

PLACE NUMBER	Ar/Ge.73.01	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,326
UTM EASTING	433729	LATITUDE	40° 43.341'
UTM NORTHING	4508231	LONGITUDE	44° 12.918'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This place is located 0.47 km due west (bearing 270°) of Tsilkar Fortress. It is the westernmost of the Gegharot survey quadrant clusters.

TOPOGRAPHY

Gegharot Burial Cluster 13 lies on a southwest-facing slope, on a ridge outlined by deep gullies. Very little soil remains on the ridge and as a result the remaining portions of cromlechs are hard to discern among the rather barren field of exposed bedrock.

GENERAL DESCRIPTION

Heavy erosion has obscured the number and extent of this cluster. Only six to ten burials were identified across 210 m of the exposed ridgetop. The tombs that remain are primarily small constructions, between 1.5 m and 4.0 m in diameter. Standard, mounded, and bedrock styles are all found here, but in some cases it is unclear if taphonomic processes may have severely altered their form (e.g., deflation of mound leaves only a standard cromlech).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

GEGHAROT QUADRANT (*cont.*)*BURIAL CLUSTER 14*

PLACE NUMBER	Ar/Ge.72.02	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,367
UTM EASTING	434058	LATITUDE	40° 43.292'
UTM NORTHING	4508139	LONGITUDE	44° 13.152'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Set just above Gegharot Burial Cluster 11, this cluster of burials is the uppermost of those located on the southwest path to Tsilkar Fortress (0.17 km, bearing 238°) (map quadrant E4f).

TOPOGRAPHY

This place is set on an elevated ridge along the upper flanks of the Pambak foothills. The topography is more gentle as the terrain begins to level off on the final approaches to the summit. Furthermore, a series of terrace constructions have served to limit erosion.

GENERAL DESCRIPTION

This cluster of five to seven standard cromlech burials is set atop two (upper and lower) partially overlapping terraces. The terrace walls are built of cyclopean stone masonry, several sections of which are still preserved to heights of 1.0–1.5 m in two to three courses. The granite and basalt boulders are unworked. The terrace walls are semi-circular in plan with an upper terrace 45 m wide north–south × 38 m wide east–west. The lower terrace was built to abut the upper terrace on the eastern arc segment and is approximately 35 m wide north–south (although there is no architectural definition of the terrace's interior boundary).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 15

PLACE NUMBER	Ar/Ge.00.01	ILLUSTRATION	Pl. 21
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,051
UTM EASTING	433927	LATITUDE	40° 42.299'
UTM NORTHING	4506091	LONGITUDE	44° 12.072'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This burial cluster lies within the territory of the modern village of Gegharot, below the western flank of Gegharot Fortress, on the southern side of the Kasakh River (map quadrant D4n).

TOPOGRAPHY

Due to a considerable increase in village construction on the southern side of the modern road during the last twenty to thirty years, the burials of this cluster now lie scattered in the yards of numerous homes. The area is generally flat, similar to the terrain surrounding the Gegharot Kurgans cemeteries.

GENERAL DESCRIPTION

The burials of this cluster include twelve visible standard cromlechs averaging 5–6 m in diameter. Many appear to be disturbed, but it is unclear whether this is a result of the new homes and yards that surround the cromlechs.

ASSOCIATED FEATURES AND MATERIALS

Gegharot Burial Cluster 15 hosted the only excavations conducted in the Tsaghkahovit Plain prior to the work of Project ArAGATS. In 1956, Martirosyan (1964: 89–93) opened five Late Bronze Age graves and in 1960, Esaian (unpublished) opened three additional cromlechs. Both projects were salvage investigations spurred by materials discovered during construction. It is unclear exactly where these operations were located other than the general area of the modern village, so we are unsure whether these eight burials should be added to the total of twelve now visible.

GEGHAROT KURGANS QUADRANT

BURIAL CLUSTER 1

PLACE NUMBER	Ar/GK.01.01	ILLUSTRATION	Pls. 21, 80a
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,081
UTM EASTING	435200	LATITUDE	40° 41.831'
UTM NORTHING	4505425	LONGITUDE	44° 13.980'
PERIODIZATION	Middle Bronze/Late Bronze		

ASSOCIATION

Found on the south side of the Yerevan–Spitak (M3) road, at the northern foot of Mount Vardablur, Gegharot Kurgans Burial Cluster 1 represents the southeastern cluster of kurgans within the Gegharot Kurgans survey quadrant, 1.14 km southeast (bearing 146°) of Gegharot Fortress (map quadrant D4o).

TOPOGRAPHY

The terrain in the area is generally flat, although it slopes gently upward moving south toward the flanks of Mount Vardablur. The area appears to be very disturbed in some areas with several large bulldozer piles of boulders, earth, and metal wire.

GENERAL DESCRIPTION

Gegharot Kurgans Burial Cluster 1 includes nine clearly visible tombs (kurgan numbers 1–3, 6, 13–17) set in three distinct groups that cover an area 110 m north–south × 150 m east–west. They range widely in size from 4.0 m to 18.9 m in diameter. Their mounds vary in elevation above the surrounding ground surface from 25 cm to 1.5 m. Several kurgans appear to be very well preserved despite the surrounding disturbance.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Kurgan 13 is the largest kurgan in Gegharot Burial Cluster 1. It measures 18.9 m in diameter and is encircled by a clearly visible ring of granite blocks.

Kurgans 1 (pl. 80a), 2, and 3 are more typical of this group, with diameters between 4 and 7 m. However, this group is slightly unusual in that they are more tightly clustered than the other kurgans in either Gegharot Kurgans Burial Cluster 1 or 2. The intervening buffer between these kurgans is not consistent but does not exceed 8 m. Kurgan 1 was excavated in 2005 and is reported in Badalyan et al. forthcoming.

GEGHAROT KURGANS QUADRANT (*cont.*)*BURIAL CLUSTER 2*

PLACE NUMBER	Ar/GK.01.02	ILLUSTRATION	Pl. 21
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,081
UTM EASTING	435019	LATITUDE	40° 41.887'
UTM NORTHING	4505531	LONGITUDE	44° 13.851'
PERIODIZATION	Middle Bronze/Late Bronze		

ASSOCIATION

Found on the south side of the Yerevan-Spitak (M3) road, at the northern foot of Mount Vardablur, Gegharot Kurgans Burial Cluster 2 represents the northwestern cluster of kurgans within the Gegharot Kurgans survey quadrant, 0.96 km southeast (bearing 151°) of Gegharot Fortress (map quadrant D4o).

TOPOGRAPHY

The terrain in the area is slightly more undulating than in the area of Gegharot Kurgans Burial Cluster 1 as a long spur of Mount Vardablur extends north, raising parallel lines of small sloping ridges. As a result, the area appears to be much less disturbed than that around Gegharot Kurgans Burial Cluster 1.

GENERAL DESCRIPTION

Gegharot Kurgans Burial Cluster 2 includes eight clearly visible tombs (kurgan numbers 4–5, 7–12) set in two general groups that cover an area 85 m north–south × 161 m east–west. These kurgans tend to be larger on average than those in Gegharot Kurgans Burial Cluster 1, ranging from 4.75 m (kurgan 4) to 13.50 m (kurgan 5) in diameter. Their mounds vary in elevation above the surrounding ground surface from less than 50 cm to more than 1.5 m.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Kurgan 4 is rather typical of this northwestern group and deflation of the mound has revealed aspects of the underlying construction. The tomb is 4.75 m in diameter with a mound that rises less than 25 cm above the ground surface. Erosion of the mound has uncovered several granite blocks set into a ring that defines the extent of the burial and vertical stone slabs that outlines the interior chamber.

Kurgan 5 is the largest in Gegharot Kurgans Burial Cluster 2, with a diameter of 13.5 m. The mound itself is quite well preserved, although erosion on the southern side has exposed a segment of a stone circle constructed of granite blocks.

HNABERD QUADRANT

BURIAL CLUSTER 1

PLACE NUMBER	Ar/Hn.352.06	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,460
UTM EASTING	429262	LATITUDE	40° 36.101'
UTM NORTHING	4494879	LONGITUDE	44° 09.835'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

The southeasternmost of the Hnaberd quadrant burial clusters, Hnaberd Burial Cluster 1 was recorded 2.05 km southeast (bearing 151°) of Hnaberd Fortress (map quadrant B3a).

TOPOGRAPHY

The burials in this cluster are concentrated on the summit and western slope of a low hill that overlooks a valley with a swift-flowing watercourse at the bottom. Some evidence of disturbance in the area (see feature 1).

GENERAL DESCRIPTION

Only twenty-five to thirty burials were clearly visible in this cluster, occupying an area only 40×35 m. The burials were remarkable only in their normality. Each could have served as a textbook example of the standard cromlech burial form. Ranging in diameter from 3 to 6 m and built of medium, shaped and unworked basalt blocks, the outer rings of the tombs encircle two or three elongated basalt capstones.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is an exposed burial chamber lined with basalt slabs on all sides. The surrounding architecture of the burial is either submerged or destroyed making it difficult to assess the period of the looted tomb. The chamber is 1.35 m wide \times 2.40 m long. It has been exposed to a depth of 77 cm below the present ground surface. The chamber was oriented roughly east–west with single slabs for the west, north, and south sides and two smaller, less-worked basalt blocks on the eastern end (the latter two appear to now be out of place). No materials were found in or around the tomb, suggesting it was either empty or robbed with all the materials intact.

BURIAL CLUSTER 2

PLACE NUMBER	Ar/Hn.351.14	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,446
UTM EASTING	428927	LATITUDE	40° 36.148'
UTM NORTHING	4494970	LONGITUDE	44° 09.599'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 1.57 km southeast (bearing 159°) of Hnaberd Fortress, this cluster of cromlechs (along with Hnaberd Burial Clusters 1 and 7) marks the southern limit of burials in the Hnaberd survey quadrant (map quadrant B3a).

TOPOGRAPHY

This small cluster is set on the slope of a small denuded outcrop littered with basalt boulders. Despite the erosional activity in the area, there is no sign of disturbance as many burials remain partially submerged.

GENERAL DESCRIPTION

Occupying an area only 45×50 m, this cluster contains only ten to twelve standard cromlechs. All are built of small to medium, unworked basalt blocks and most range from 1.0 to 3.5 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 3

PLACE NUMBER	Ar/Hn.358.02	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,327
UTM EASTING	428500	LATITUDE	40° 37.416'
UTM NORTHING	4497084	LONGITUDE	44° 09.256'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Hnaberd Burial Cluster 3 lies 0.66 km north (bearing 18°) of Hnaberd Fortress (map quadrant B3i).

HNABERD QUADRANT (*cont.*)

TOPOGRAPHY

Hnaberd Burial Cluster 3 is one of only a few burial clusters recorded on the flat land of the Tsaghkahovit Plain proper; however, it also continues up the northern slope of a small hill that marks the foot of Mount Aragats. The area shows considerable evidence of disturbance related to trampling by herds.

GENERAL DESCRIPTION

This cluster of burials covers an area approximately 100 square m, with fifty to sixty stepped-, standard-, and paved-style burials. The burials in this cluster are generally quite large, ranging from 5 to 8 m in diameter. Many of the standard cromlechs are composed of two to three concentric rings. In some areas, paved cromlechs are so tightly packed as to make it impossible to distinguish individual burials. All the burials are constructed of medium and large, shaped basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a stepped cromlech, 6.8 m in diameter north–south × 5.0 m east–west. It is built of large, shaped basalt blocks set in two concentric rings. The second ring rises 30 cm above the outermost ring. While the center is partially submerged, it appears that the tomb is sealed by a single very large, flat, central capstone.

BURIAL CLUSTER 4

PLACE NUMBER	Ar/Hn.361.03	ILLUSTRATION	Figs. 35–37; Pls. 15, 76a, 79a
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,363
UTM EASTING	428559	LATITUDE	40° 36.976′
UTM NORTHING	4496504	LONGITUDE	44° 09.326′
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Hnaberd Burial Cluster 4 is located below the northeast and east slopes of Hnaberd Fortress (map quadrant B3i).

TOPOGRAPHY

These burials were set on a broad, elevated plateau bound by a mountain drainage on the east and Hnaberd Fortress on the west. In 1998, the burials were bordered on the south by a modern reservoir; however, this reservoir burst in the spring of 2000, flooding much of the village of Hnaberd and undoubtedly damaging the burials of Hnaberd Burial Cluster 4. Sadly, although one of the largest burial clusters in the immediate area of Hnaberd, a revisit to the site in 2006 discovered that a massive bulldozing project has destroyed the entire site. The point of this bulldozing was not entirely clear but may have been related to an effort to rebuild the reservoir. The matter has been referred to the Commission for the Preservation of Historical Monuments of the Republic of Armenia.

GENERAL DESCRIPTION

Hnaberd Burial Cluster 4 covers an area 500 m north–south × 360 m east–west, hosting no less than 105 burials. It includes several different varieties of cromlechs (including paved, mounded, and standard), as well as a small number of kurgans (see features 1, 4). In addition to the discrete “freestanding” cromlechs, several densely packed lines, or “ribbons” of paved cromlechs were also noted (feature 2). Furthermore, distinctive subclusters of cromlechs also appear to be visible within the area; however, this may well be due to submergence of intervening constructions due to local erosional conditions. Unfortunately, in addition to the recent bulldozing at the site, several cromlechs have been looted (features 1 and 3).

ASSOCIATED FEATURES AND MATERIALS

Feature 1 (pl. 79a) is a very large robbed kurgan or mounded cromlech, 16 m in diameter. The two large capstones (2.97×1.34 m and 2.8×1.4 m) have been shoved aside, most likely by heavy machinery, and the surrounding area is littered with small tuff and basalt cobbles. A circumferential ring built of medium to large, shaped basalt blocks is now visible; however, it is unclear whether the disturbed cobbles once covered this element of the construction. The chamber is 1.80×4.83 m with walls built of worked basalt slabs.

Feature 2 is a ribbon of nineteen densely packed, paved cromlechs, 26.0 m long, that meanders southwest to northeast. The individual burials, where distinguishable, appear to be between 1.25 and 2.00 m in diameter. All the burials were constructed of medium, unworked basalt blocks.

Feature 3 is another looted cromlech and the only area that yielded surface materials. The tomb appears to have been a paved cromlech, as the remains of several medium blocks are visible strewn about the surrounding area, but no large capstones are present. The surviving outer circle appears to have been 5 m in diameter, encircling a stone-lined chamber measuring 1×2 m. The chamber is defined by worked basalt slabs on all four sides. The recovered materials included twenty diagnostic sherds classified as Group B. This places the burial in the last phase of the Late Bronze Age or possibly in the opening years of the Iron I period. This would date the burial toward the end of the Tsaghkahovit Plain's second-millennium B.C. occupation, just prior to the Iron I hiatus.

Feature 4 is an intact kurgan, 10.0 m in diameter and 80 cm tall, constructed of tuff and basalt cobbles. No outer ring is visible.

Feature 5 (pl. 76a) is a very well-preserved spiral cromlech, 8.2 m in diameter. Built of large basalt blocks, the spiral appears to begin on the southern edge of the construction and move inward to the center in three concentric rings. At the center, part of a large flat capstone is visible.

In addition to the surface features described above, two cromlechs from Hnaberd Burial Cluster 4 were excavated in 2000.

Tomb 1 (figs. 36–37) is a large budding cromlech. The primary circle of stones is 6.8 m in diameter constructed of a single ring of medium to large, unworked basalt blocks. Inside the ring, a paving of basalt plinths frames a stone-lined chamber (A) oriented northeast–southwest. It was lined on three sides by basalt slabs with natural flat faces and on the fourth side (southwest) by a wall of smaller unshaped stones. The chamber measured 2.2 m long \times 1.0 m wide \times 1.5 m deep. The chamber contained the remains of a human skeleton; however, what remained was in a terrible state of preservation. We were unable to determine the sex, age, position, or even the number of individuals interred. Several bone fragments appeared to come from a small mammal, possibly part of the grave inventory, but the condition of the bones did not allow for a certain evaluation. Chamber A included a small spiraled wire bronze ring, two small tubes of bronze, sixty beads made of carnelian and paste, and five ceramic vessels (fig. 36). Chamber B was a small ancillary construction, or dromos, built into the southern side of the outer ring. This chamber was also stone lined, measuring 1.06 m long \times 0.40 m wide \times 0.52 m deep. It was also constructed using a similar basalt slab construction to outline the chamber walls. There were six ceramic vessels located in this small chamber concentrated against the northeast wall (fig. 36).

Tomb 2 was a mounded cromlech composed of two circumscribed stone rings built of large, unworked basalt blocks (fig. 37). The tomb is slightly elliptical, measuring 8.50 m north–south \times 6.45 m east–west. The superimposed mound of stone cobbles (tuff and basalt) and earth rose 1.6 m above the surrounding ground surface. Below the mound was a second circumscribing ring surrounding five basalt capstones. The chamber was a rectangular pit with rounded corners that measured 1.44 m east–west \times 3.12 m north–south. The burial contained three skeletons, one adult male, one adult female, and one adolescent male. The adult male, twenty-five to thirty years old, lay on his right side facing east with legs flexed and hands raised in front of the face. His skull rested on the skull of the second skeleton, an adolescent male, age fourteen– to sixteen years. This skeleton lay in a similar position on its the right side with legs and arms flexed. The cranium was toward the north, facing west. The third skeleton, lying in the southern half of the pit, was that of an adult female, age twenty-five to thirty. The skeleton was found in three large segments. The head and six vertebrae had been separated and placed upright on the pelvis of the adolescent. The arms of the skeleton were in place, except for the left humerus that had been placed just west of the skull. The sixth lumbar vertebra was cut and the lower lumbar vertebrae, pelvis, and legs were separated from the rest of the body and placed on their left side in the southernmost part of the pit. The legs were flexed. The grave inventory included several sheep bones and six ceramic vessels (fig. 35).

Figure 35. Materials from Hnaberd Burial Cluster 10 Tomb 1 and Burial Cluster 4 Tomb 2

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>	<i>i</i>
<i>Locus</i>	Burial Cluster 10 Tomb 1	—	Burial Cluster 10 Tomb 1	Burial Cluster 4 Tomb 2	Burial Cluster 4 Tomb 2	Burial Cluster 4 Tomb 2	Burial Cluster 4 Tomb 2	Burial Cluster 4 Tomb 2	Burial Cluster 4 Tomb 2
<i>Sherd No.</i>	A	—	B	2	5	4	6	1	3
<i>Period</i>	Late Bronze II	—	Late Bronze II	Late Bronze I	Late Bronze I	Late Bronze I	Late Bronze I	Late Bronze I	Late Bronze I
<i>Fragment</i>	Whole	—	Whole	Whole	Whole	Whole	Whole	Whole	Whole
<i>Form</i>	Closed Jar	—	Bowl	Closed Jar	Closed Jar	Closed Jar	Closed Jar	Bowl	Closed Jar
<i>Rim Variant</i>	Flared Ledge	—	Straight Rounded	Rounded	Flat	Rolled	Flat	Full Everted	Everted
<i>Exterior Color</i>	Orange- Buff	—	Black	Brown/ Black	Orange/ Black	Black	Orange/ Black	Orange/ Black	Orange/ Black
<i>Interior Color</i>	Brown	—	Brown	Brown	Orange	Buff	Buff	Black	Orange
<i>Fabric Color</i>	Orange	—	Gray	Brown	—	—	Buff	—	Brown
<i>Inclusions</i>	Medium	—	Medium	Medium	Medium	—	Medium	—	Medium
<i>Slip</i>	Yes	—	Yes	No	Yes	Yes	Yes	Yes	Yes
<i>Surface Treatment</i>	Polished	—	Polished	None	Smoothed	Polished	Smoothed	Polished	Smoothed
<i>Rim Diameter / Percent</i>	13.16 cm / 100%	—	13.79 cm / 100%	14.00 cm / 100%	12.24 cm / 100%	6.60 cm / 100%	10.51 cm / 100%	15.42 cm / 100%	21.00 cm / 100%

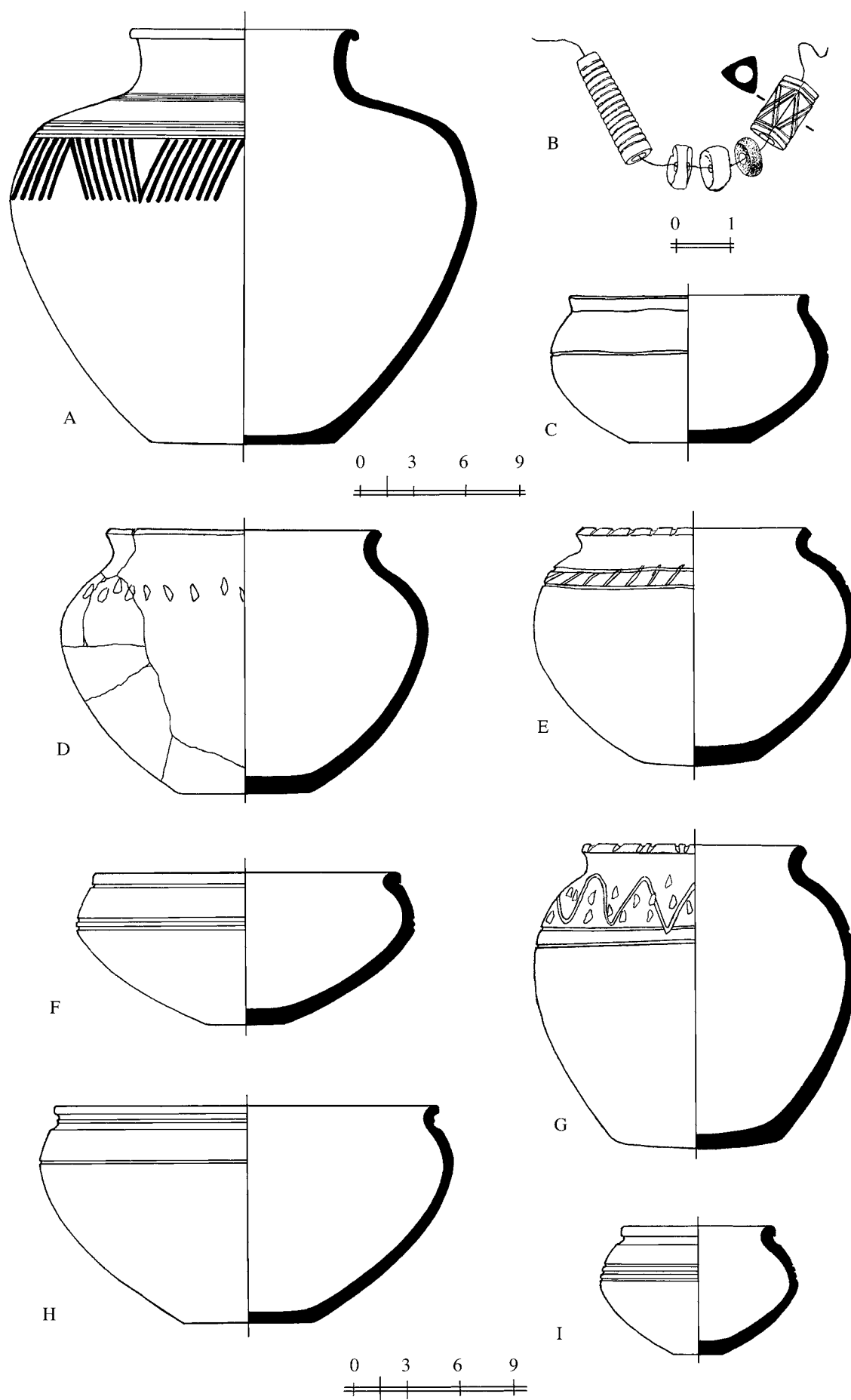


Figure 35. Materials from Hnaberd (a–c) Burial Cluster 10 Tomb 1 and (d–i) Burial Cluster 4 Tomb 2

Figure 36. Materials from Hnaberd Burial Cluster 4 Tomb 1 Chamber B and Chamber A (Ceramic Details)

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>	<i>i</i>	<i>j</i>	<i>k</i>	<i>l</i>	<i>m</i>	<i>n</i>
<i>Locus</i>	Burial Cluster 4 Tomb 1 Chamber B	Burial Cluster 4 Tomb 1 Chamber B	Burial Cluster 4 Tomb 1 Chamber B	Burial Cluster 4 Tomb 1 Chamber B	Burial Cluster 4 Tomb 1 Chamber B	Burial Cluster 4 Tomb 1 Chamber B	Burial Cluster 4 Tomb 1 Chamber A	Burial Cluster 4 Tomb 1 Chamber A	Burial Cluster 4 Tomb 1 Chamber A	Burial Cluster 4 Tomb 1 Chamber A	Burial Cluster 4 Tomb 1 Chamber A	—	—	—
<i>Sherd No.</i>	5	6	4	2	1	3	5	4	3	2	1	—	—	—
<i>Period</i>	Late Bronze II	Late Bronze II	Late Bronze II	Late Bronze II	Late Bronze II	Late Bronze II	Late Bronze II	Late Bronze II	Late Bronze II	Late Bronze II	Late Bronze II	—	—	—
<i>Fragment</i>	Whole	Whole	Whole	Whole	Whole	Whole	Whole	Whole	Whole	Whole	Whole	—	—	—
<i>Form</i>	Closed Jar	Open Jar	Bowl	Closed Jar	Cup	Mug	Closed Jar	Bowl	Open Jar	Closed Jar	Bowl	—	—	—
<i>Rim Variant</i>	Everted	Ledge	Flared	Rounded Everted	Straight	Straight	Rounded Ledge	Straight	Rounded Everted	Everted	Straight	—	—	—
<i>Exterior Color</i>	Orange/ Brown	Black	Orange/ Brown	Gray	Orange/ Brown	Orange/ Brown	Buff	Brown	Gray	Orange/ Black	Buff/Black	—	—	—
<i>Interior Color</i>	Orange/ Brown	Brown	Orange/ Brown	Gray	Orange/ Black	Orange/ Brown	Buff	Orange	Brown	Orange/ Brown	Brown	—	—	—
<i>Fabric Color</i>	—	Brown	Brown	Brown	—	Brown	—	Brown	Brown	—	Buff	—	—	—
<i>Inclusions</i>	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	—	—	—
<i>Slip</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	—	—	—
<i>Surface Treatment</i>	Smoothed	Smoothed	Smoothed	Smoothed	Smoothed	Smoothed	Smoothed	Polished	Polished	Smoothed	Polished	—	—	—
<i>Rim Diameter / Percent</i>	12.33 cm / 100%	17.50 cm / 90%	15.30 cm / 100%	12.00 cm / 100%	7.96 cm / 100%	10.50 cm / 85%	12.49 cm / 100%	17.00 cm / 90%	20.50 cm / 100%	15.99 cm / 100%	17.00 cm / 90%	—	—	—

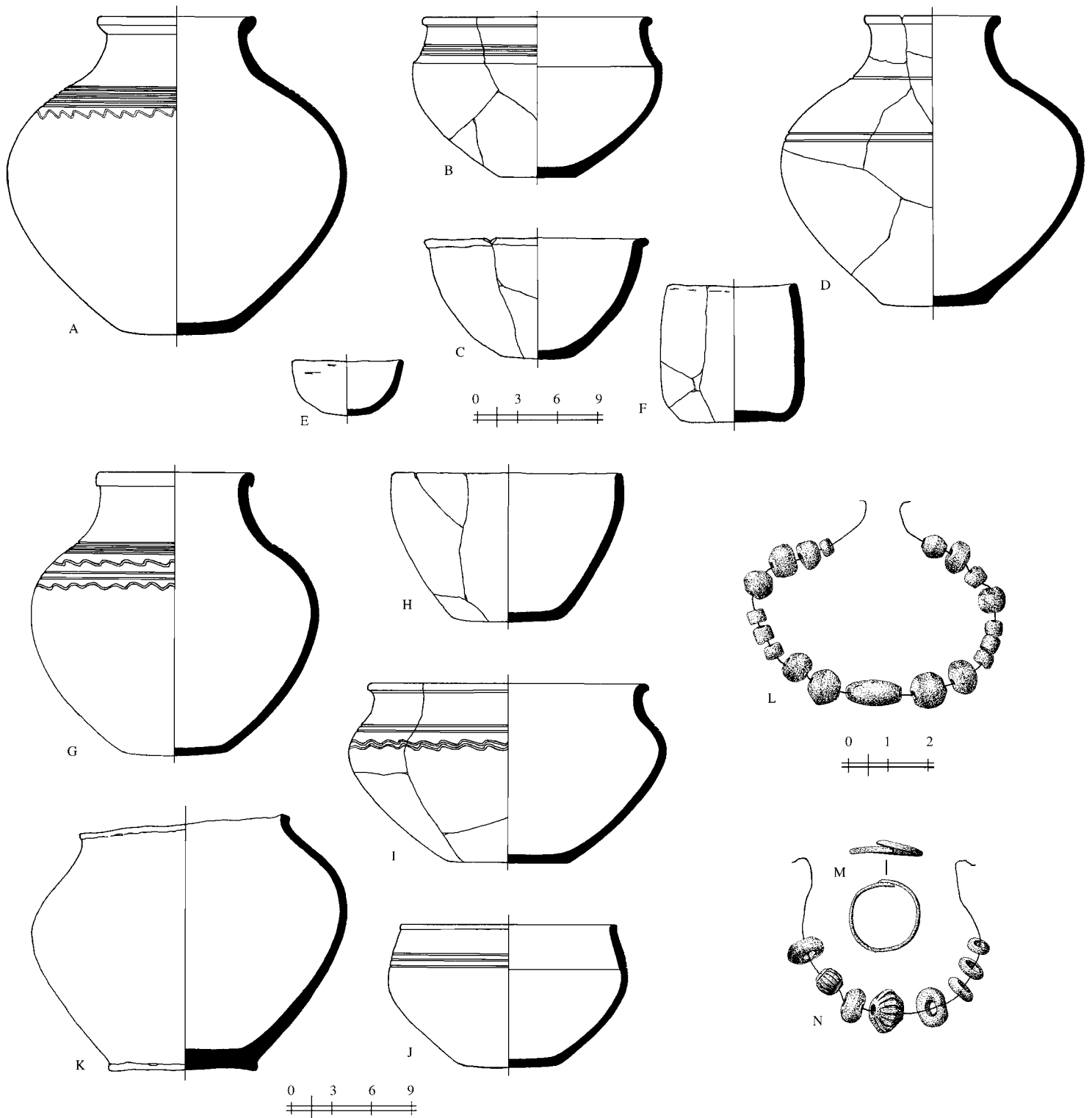


Figure 36. Materials from Hnaberd Burial Cluster 4 Tomb 1 (*a-f*) Chamber B and (*g-n*) Chamber A

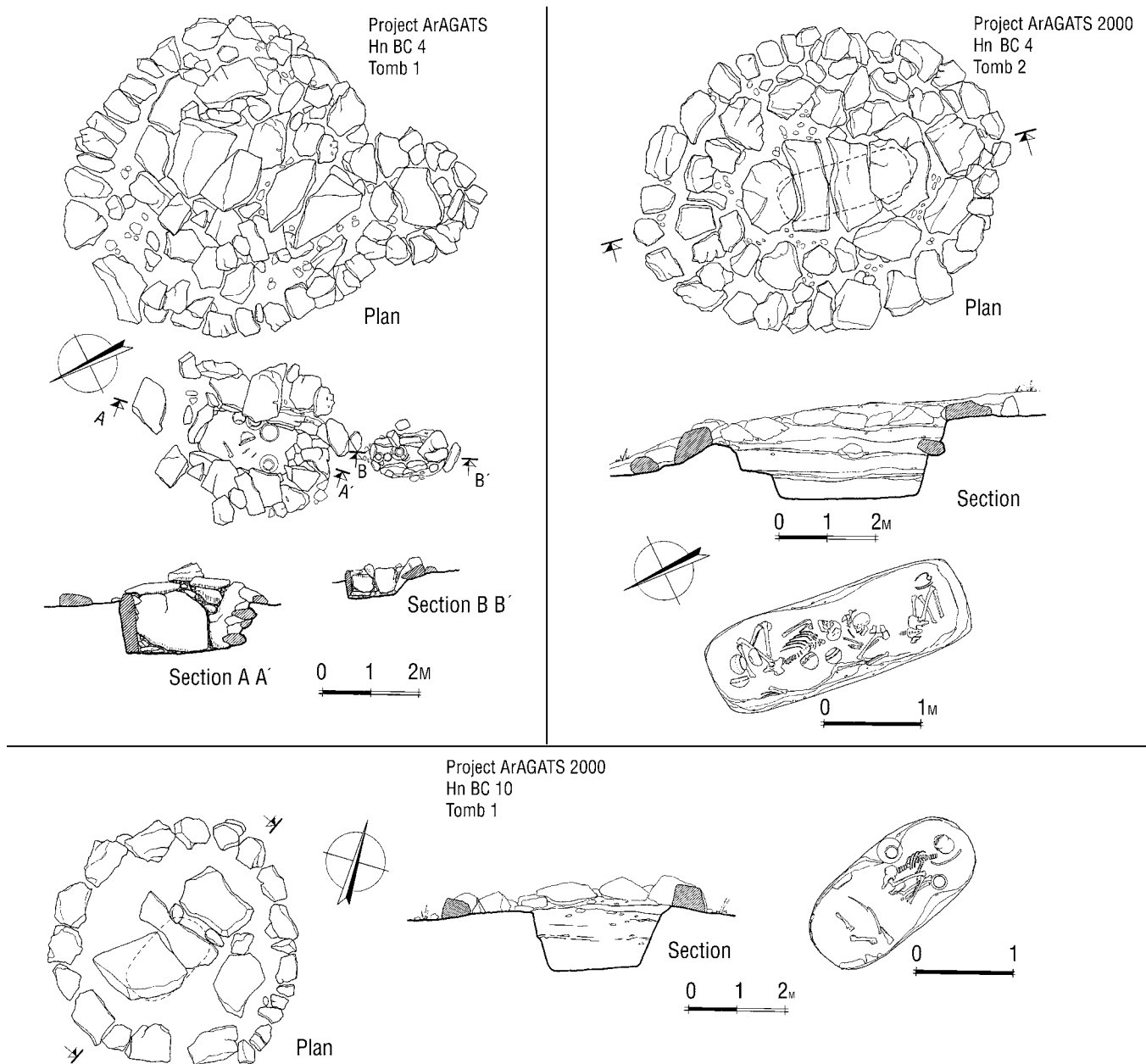


Figure 37. Hnaberd Burial Cluster 4 Tombs 1 and 2 and Burial Cluster 10 Tomb

HNABERD QUADRANT (*cont.*)*BURIAL CLUSTER 5*

PLACE NUMBER	Ar/Hn.360.05	ILLUSTRATION	Pls. 14–15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,380
UTM EASTING	428415	LATITUDE	40° 36.680'
UTM NORTHING	4495889	LONGITUDE	44° 09.240'
PERIODIZATION	Late Bronze/Iron I		
ASSOCIATION			

Hnaberd Burial Cluster 5 is located 0.55 km south (bearing 175°) of Hnaberd Fortress (map quadrant B3e).

TOPOGRAPHY

This cluster of cromlechs lies atop a broad, elevated plateau that slopes gently to the northeast. Much of the area is presently under cultivation and there are signs of field clearance and bulldozer activity.

GENERAL DESCRIPTION

This populous but small cluster extends across an area no more than 40 square m but includes at least thirty-five identifiable tombs. They are all spiral or standard cromlechs that range from 2 to 5 m in diameter. They are built of medium, unworked or lightly shaped basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 6

PLACE NUMBER	Ar/Hn.360.06	ILLUSTRATION	Pls. 14–15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,240
UTM EASTING	428355	LATITUDE	40° 36.540'
UTM NORTHING	4495691	LONGITUDE	44° 09.206'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Hnaberd Burial Cluster 6 is located 0.75 km south (bearing 181°) of Hnaberd Fortress (map quadrant B3e).

TOPOGRAPHY

This cluster was identified on the same elevated plateau as Hnaberd Burial Cluster 5. The terrain slopes gently to the north and includes areas under cultivation as well as signs of modern bulldozing activity. But there are no tombs that show evidence of looting or destruction. Many tombs are quite submerged below ground level, making an accurate count difficult.

GENERAL DESCRIPTION

Hnaberd Burial Cluster 6 is a small cluster, approximately 35 m north–south × 25 m east–west. It includes only ten to fifteen standard cromlechs that are clearly or partially visible. These tombs vary from 2 to 5 m in diameter and, as is typical, are built of unworked or lightly shaped basalt blocks surrounding one to three basalt capstones.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 7

PLACE NUMBER	Ar/Hn.360.07	ILLUSTRATION	Pls. 14–15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,470
UTM EASTING	428361	LATITUDE	40° 36.134'
UTM NORTHING	4494966	LONGITUDE	44° 09.201'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Hnaberd Burial Cluster 7 is located 1.48 km south (bearing 180°) of Hnaberd Fortress. Along with Hnaberd Burial Clusters 1 and 2, it constitutes the southernmost group of burials in the Hnaberd survey quadrant (map quadrant B3a).

HNABERD QUADRANT (*cont.*)

TOPOGRAPHY

Hnaberd Burial Cluster 7 lies atop an elevated plateau similar to that which hosts Hnaberd Burial Clusters 5 and 6. However, this one is narrower and more steeply sloping. But the higher elevation brings with it less disturbance from agricultural work, even though a large number of burials appear to be almost entirely submerged under the ground surface, making a count of the visible burials virtually meaningless.

GENERAL DESCRIPTION

This small cluster appears to extend across an area roughly 40 square m. Only standard cromlechs, 2–5 m in diameter, are visible, with a single ring of medium, unworked basalt blocks encircling one to three capstones.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 8

PLACE NUMBER	Ar/Hn.362.01	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,217
UTM EASTING	428846	LATITUDE	40° 37.403'
UTM NORTHING	4497318	LONGITUDE	44° 09.440'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located just 0.42 km northeast (bearing 56°) of Hnaberd Burial Cluster 3, this cluster was found 0.57 km west of the western edge of Gekhadzor village (map quadrant B3m).

TOPOGRAPHY

These burials are located amid a series of small rock outcrops separated from one another by agricultural fields. The outcrops represent the terminus of Mount Aragats' northern slope as it flows into the Tsaghkahovit Plain.

GENERAL DESCRIPTION

Only a small number of cromlechs remain in the area. The burials are widely spaced (no doubt in part a result of the toll cultivation in the area has taken) and include paved, standard, and mounded cromlechs. All are constructed of small to medium basalt blocks except for the mounded cromlechs which employ both tuff and basalt cobbles. The burials are generally quite small, ranging from 1 to 2 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 9

PLACE NUMBER	Ar/Hn.364.01	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,437
UTM EASTING	428214	LATITUDE	40° 36.312'
UTM NORTHING	4495290	LONGITUDE	44° 09.110'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Hnaberd Burial Cluster 9 was recorded 1.16 km south (bearing 172°) of Hnaberd Fortress (map quadrant B2h).

TOPOGRAPHY

These burials are set on a north-sloping plateau strewn with occasional basalt boulders but with few outcrops of natural rock. There are some signs of local disturbance in the area, including cultivated fields.

GENERAL DESCRIPTION

This small cluster includes both fifteen to twenty standard cromlechs and at least one kurgan (feature 1). The cluster extends across an area approximately 60 m east–west × 50 m north–south. The cromlechs are constructed of medium, unworked basalt blocks and range from 1.2 to 3.0 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is the sole kurgan in this cluster. It is 8 m in diameter and rises 45 cm above the surrounding ground surface. It is built of small tuff and basalt cobbles covering what appears from the surface to be an earthen mound. No encircling outer ring of stones is visible.

BURIAL CLUSTER 10

PLACE NUMBER	Ar/Hn.364.02	ILLUSTRATION	Figs. 55–56; Pls. 14–15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,370
UTM EASTING	428243	LATITUDE	40° 36.734′
UTM NORTHING	4496070	LONGITUDE	44° 09.111′
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This widely dispersed cluster is located just south of Hnaberd's lower town (map quadrant B2h).

TOPOGRAPHY

The burials lie on the broad plateau that lies behind (to the south of) Hnaberd Fortress. The area slopes gently downward to the north. There is considerable evidence of disturbance to the burials, including one clearly looted using heavy machinery (feature 1).

GENERAL DESCRIPTION

The burials in this cluster are not particularly numerous given the sprawling extent of the cluster, covering an area approximately 200 m north–south × 350 m east–west. The burials, including standard, paved, spiral, and mounded cromlechs, vary widely in size, from 3.5 to 4.0 m in diameter. All appear to be built of medium to large, shaped basalt blocks. While most have normal capstones, several (such as feature 1) boast cyclopean basalt boulders as capstones.

ASSOCIATED FEATURES AND MATERIALS

Even though the adjacent lower town did yield a modest collection of surface materials (see Hnaberd Fortress), only a single obsidian flake was found on the surface within the area of Hnaberd Burial Cluster 10.

Feature 1 is a looted spiral cromlech found on the eastern edge of Hnaberd Burial Cluster 10. It is 12 m in diameter and built of large, shaped basalt blocks. This tomb was surmounted by a massive basalt boulder which has recently been pushed to the side to reveal an inner chamber. The chamber was 2.1 × 1.3 m and lined with worked basalt slabs. The interior is now overgrown with primary weeds, suggesting the vandalism of the tomb took place not too long before we recorded the feature in 1998. No materials were recovered suggesting the tomb contents were removed intact.

HNABERD QUADRANT (*cont.*)

Feature 2 is an extraordinarily large mounded cromlech, 14 m in diameter. The outer ring is built of shaped basalt boulders while the interior is constructed of a mound of small tuff and basalt cobbles, 60 cm tall at the center.

In addition to the surface features described above, two cromlechs from Hnaberd Burial Cluster 4 were excavated in 2000.

Tomb 1 (figs. 55–56) is a small standard cromlech with a north–south diameter of 5.15 m and an east–west diameter of 5.35 m. The stone outer ring and three capstones are all basalt. The capstones cover an earthen pit 1.0 m wide \times 1.8 m long \times 0.6 m deep. The burial contained a single skeleton, that of a female, forty-five to fifty-five years old. The cranium had been separated from the post-cranial remains and was sitting upright facing west. The body was lying on its left side, in a very tightly flexed position with the legs pulled close to the chest. The skeleton had several notable particularities. The mandible had been removed and was found resting on top of one of the ceramic vessels. The following bones were missing from the burial: the cervical vertebrae, the sternum, both scapulae, both clavicles, both humeri, both ulnae, and the carpals and metacarpals of both hands. The two radii were found separately from the skeleton and neither had epiphyses. In addition to the skeleton, the grave included select bones of a bull that appear to have been placed in conspicuous arrangements. Most notably, in the southern half of the pit, five bones (including the scapula and humerus) were arranged in two east–west lines. The grave inventory also included eight beads and two ceramic vessels.

BURIAL CLUSTER 11

PLACE NUMBER	Ar/Hn.365.02	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,371
UTM EASTING	428183	LATITUDE	40° 36.835'
UTM NORTHING	4496300	LONGITUDE	44° 09.073'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Hnaberd Burial Cluster 11 is located on the western slope of the same dramatic promontory that hosts Hnaberd Fortress and lower town (map quadrant B21).

TOPOGRAPHY

The burials are constructed on a steep slope and erosion seems to have impacted the constructions considerably as many appear to be incomplete.

GENERAL DESCRIPTION

Perhaps due to poor preservation, this burial cluster appears to be substantially smaller than its neighbor, Hnaberd Burial Cluster 10. It extends across an area only 60 m east–west \times 25 m north–south. One paved, three mounded, and twelve standard cromlechs were recorded in the cluster. All were constructed of medium, unworked basalt blocks and, in the case of mounded cromlechs, tuff and basalt cobbles. They range widely in size from 2.5 to 7.0 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a mounded cromlech, 6 m in diameter. The mound is more like a promontory in that erosion has submerged the upslope portion of the burial and deflated part of the downslope portion. The maximum rise from the mound to the lower slope is 20 cm.

BURIAL CLUSTER 12

PLACE NUMBER	Ar/Hn.367.02	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,398
UTM EASTING	428139	LATITUDE	40° 36.622'
UTM NORTHING	4495852	LONGITUDE	44° 09.032'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Hnaberd Burial Cluster 12 is located 0.63 km southwest (bearing 201°) of Hnaberd Fortress (map quadrant B2h).

TOPOGRAPHY

These burials are located on a gentle northwest-oriented slope in an area with very little evidence of erosion. There are, however, signs of disturbance, including cromlechs that appear to have been recently looted.

GENERAL DESCRIPTION

The burials in this cluster include both cromlechs and cist graves. The cists are quite unique in that they consist of basalt slabs set on end and smaller, shaped basalt blocks that now protrude above the surrounding ground surface. They define rectangular tombs that range from 2.2 to 3.0 m in length and 1.5–2.0 m in width. The constructions overall tend to average around 3–5 m in length. The cromlechs in the cluster are, in general, partially submerged, but appear to average 2–3 m in diameter. They are built of small to medium basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a cist 4 m long × 3 m wide. The inner chamber, outlined by worked basalt slabs and shaped basalt blocks, is 2.8 m long × 1.8 m wide. A possible side chamber was also noted, 30 cm square.

BURIAL CLUSTER 13

PLACE NUMBER	Ar/Hn.374.01	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,318
UTM EASTING	429091	LATITUDE	40° 37.302'
UTM NORTHING	4497085	LONGITUDE	44° 09.663'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Hnaberd Burial Cluster 13 is located 0.82 km southwest (bearing 208°) of Gekhadzor Fortress, along the same watercourse that defines the western edge of the village (map quadrant B3i).

TOPOGRAPHY

The burials of Hnaberd Burial Cluster 13 were built on the leading edge of Mount Aragats' northern slope where it intersects with the Tsaghkahovit Plain. The terrain undulates a bit and is pockmarked with eruptions of natural rock. The lower-lying terrain is cultivated.

GENERAL DESCRIPTION

This small cluster extends across an area only 40 m north–south × 35 m east–west. The burials are relatively few and generally restricted to small to medium, standard cromlechs built of small, unworked basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

HNABERD QUADRANT (*cont.*)*BURIAL CLUSTER 14*

PLACE NUMBER	Ar/Hn.370.01	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2362
UTM EASTING	428796	LATITUDE	40° 37.157'
UTM NORTHING	4496775	LONGITUDE	44° 09.510'
PERIODIZATION	Middle Bronze(?), Late Bronze/Iron I		

ASSOCIATION

Hnaberd Burial Cluster 14 is 0.54 km northeast (bearing 52°) of Hnaberd Fortress and 0.36 km northeast of Hnaberd Burial Cluster 4, of which it may in fact be a part. Hnaberd Stela 1 was found in this cluster (map quadrant B3i).

TOPOGRAPHY

The terrain on which Hnaberd Burial Cluster 14 rests is a rocky terminal slope of Mount Aragats, directly overlooking the base of the mountain. The area is littered with boulders and eroding natural bedrock. Flat areas have been cleared and are now under cultivation.

GENERAL DESCRIPTION

Due to intervening building projects and other forms of disturbance, Hnaberd Burial Cluster 14 is separated from its much larger neighbor, Hnaberd Burial Cluster 4. And yet the burials are in many respects quite similar, suggesting that they may once have been part of a single vast necropolis that stretched eastward from the foot of Hnaberd Fortress. Visible styles of burials include standard and mounded cromlechs, as well as several kurgans. The cromlechs are quite large, ranging from 6 to 12 m in diameter, and are built of medium to large, worked and unworked basalt blocks. The three kurgans noted in the cluster ranged in diameter from 6 to 12 m. All three were constructed of tuff and basalt cobbles, although one also showed signs of basalt blocks integrated into the mound.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a modest-sized oblong cromlech, 6 m in diameter north–south × 5 m east–west. It is built of small tuff and basalt cobbles and rises 30 cm above the level of the surrounding ground surface. Despite the possible evidence for disturbance suggested by the burial's irregular dimensions, there was no visible sign of an encircling ring.

BURIAL CLUSTER 15

PLACE NUMBER	Ar/Hn.370.03	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,370
UTM EASTING	428768	LATITUDE	40° 36.505'
UTM NORTHING	4495629	LONGITUDE	44° 09.478'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 0.91 km southeast (bearing 154°) of Hnaberd Fortress, this cluster lies 0.42 km east of Hnaberd Burial Cluster 6 (map quadrant B3e).

TOPOGRAPHY

The burials lie atop a broad elevated plateau, above a flowing watercourse that ultimately leads to the eastern slope of Hnaberd Fortress. The area has been heavily disturbed by bulldozing, presumably as part of efforts to bring the flat terrain of this elevated plateau under cultivation.

GENERAL DESCRIPTION

Only a few cromlechs survive in this area due to the work of a bulldozer. The extant cromlechs appear to be primarily standard and mounded cromlechs (although the latter are potentially field piles that have resulted from earlier efforts to clear the land).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 16

PLACE NUMBER	Ar/Hn.371.06	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,411
UTM EASTING	428763	LATITUDE	40° 36.400'
UTM NORTHING	4495436	LONGITUDE	44° 09.470'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Hnaberd Burial Cluster 16 was recorded just 0.19 km south (bearing 181°) of Hnaberd Burial Cluster 15 (map quadrant B3e).

TOPOGRAPHY

This cluster of burials lies on the northern slope of a small, rounded outcrop. The hill shows considerable evidence of erosion, with numerous eruptions of exposed natural bedrock, but there are no immediate signs of disturbance.

GENERAL DESCRIPTION

Hnaberd Burial Cluster 16 is a small cluster, extending across an area no more than 65 m east–west × 55 m north–south. It consists of ten to fifteen visible, or partially visible, standard cromlechs built of medium, unworked basalt blocks set in a single ring around one to three unworked basalt capstones.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 17

PLACE NUMBER	Ar/Hn.371.07	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,521
UTM EASTING	428760	LATITUDE	40° 36.211'
UTM NORTHING	4495087	LONGITUDE	44° 09.478'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster of cromlechs is located 0.25 km south (bearing 180°) of Hnaberd Burial Cluster 16, marking the southern extent of a conspicuously ordered line of clusters that also includes Hnaberd Burial Cluster 15 (map quadrant B3a).

TOPOGRAPHY

Like Hnaberd Burial Cluster 16, this cluster of burials is set on the northern slope of a low rock outcrop punctuated with eroding natural bedrock. There is no evidence for disturbance in the area, but erosion and submergence do seem to have had an impact on the cromlechs.

HNABERD QUADRANT (*cont.*)

GENERAL DESCRIPTION

This small cluster, like Hnaberd Burial Cluster 16 to the north, includes only small to medium, standard cromlechs. Approximately twenty-five discrete burials were visible within an area 60 m east–west × 45 m north–south. All were constructed of medium basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 19

PLACE NUMBER	Ar/Hn.376.02	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,350
UTM EASTING	429098	LATITUDE	40° 36.926'
UTM NORTHING	4496405	LONGITUDE	44° 09.709'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Hnaberd Burial Cluster 19 is located 0.73 km east (bearing 93°) of Hnaberd Fortress just 0.25 km south of Hnaberd Settlement 1 (map quadrant B3i).

TOPOGRAPHY

The burials of this cluster spread across a gentle slope near a small watercourse. The area shows some signs of recent disturbance.

GENERAL DESCRIPTION

The burials of Hnaberd Burial Cluster 19 spread widely across an area approximately 150 m east–west × 80 m north–south. Except for a single tightly packed “ribbon” of cromlechs (feature 1), they are quite discrete and well dispersed. The cluster includes standard, paved, and mounded cromlechs. The burials generally range from 2.5 to 4.5 m in diameter. They are constructed primarily of medium, unworked basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a packed line, or “ribbon” of paved cromlechs. The line is 2.5 m wide × 20.0 m long, although both ends are highly submerged suggesting the burials might extend farther than is currently visible. The burials, to the extent that individual interments can be distinguished, are built of medium, unworked basalt blocks.

BURIAL CLUSTER 20

PLACE NUMBER	Ar/Hn.378.03	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,502
UTM EASTING	429106	LATITUDE	40° 36.379'
UTM NORTHING	4495393	LONGITUDE	44° 09.721'
PERIODIZATION	Middle Bronze(?), Late Bronze/Iron I		

ASSOCIATION

Hnaberd Burial Cluster 20 was recorded 1.28 km southeast (bearing 145°) of Hnaberd Fortress, just across a primary watercourse from Hnaberd Burial Cluster 16 (map quadrant B3e).

TOPOGRAPHY

This cluster of burials was built along a moderate west-facing slope, above a flowing watercourse. There is considerable evidence of disturbance in the area as large boulders — some of them possibly former capstones — appear to have been dislocated. However, none of the identifiable burials appears to have been looted.

GENERAL DESCRIPTION

The burials of this cluster include twenty to twenty-five cromlechs and a single large kurgan (feature 1). The cluster extends across an area 100 m east–west \times 75 m north–south. The cromlechs are standard-style constructions, 2–5 m in diameter, built of medium to large, unworked basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a single large kurgan, 10.7 m in diameter north–south \times 15.2 m east–west, located on the northwest edge of the cluster. The center of the mound rises 1.7 m above the surrounding ground surface. The burial is built primarily of small tuff and basalt except for a single medium basalt block at the summit of the mound.

BURIAL CLUSTER 21

PLACE NUMBER	Ar/Hn.380.01	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,444
UTM EASTING	429156	LATITUDE	40° 36.274'
UTM NORTHING	4495208	LONGITUDE	44° 09.747'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster of burials lies just 0.19 km south (bearing 165°) of Hnaberd Burial Cluster 20, of which it may well be an extension (map quadrant B3a).

TOPOGRAPHY

Built on the north-facing slope of a modest rock outcrop, the burials of this cluster are set among eroding areas of natural bedrock and occasional basalt boulders. Like Hnaberd Burial Cluster 20, there is some evidence of disturbance in this cluster, particularly to the kurgan.

GENERAL DESCRIPTION

The burials of Hnaberd Burial Cluster 21 extend across an area 75 m east–west \times 85 m north–south. The burials, approximately forty-five in number, are limited to standard cromlechs which vary in size from 2 to 5 m in diameter except for a single large kurgan on the northern periphery of the cluster (feature 2). As is typical, they are constructed of medium basalt blocks set in a single ring around two to three basalt capstones.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a typical cromlech within this cluster. It is 3.2 m in diameter east–west \times 5.0 m in diameter north–south. It is set on an area of low relief creating a slightly terraced effect. The construction stones are medium, unworked basalt blocks set in a ring around two larger basalt capstones. The part of the ring upslope is submerged, as are parts of the capstones.

Feature 2 is an unusual kurgan. The outer mound is 8.5 m in diameter and 50 cm tall, and is constructed of the usual pile of tuff and basalt cobbles. In the center, the chamber of the cromlech appears to have been built above ground, rather than below, as the contour of the chamber lies exposed at the same height as the mound itself. The chamber is 1.4 m long \times 1.0 m wide and is lined with what from the surface appear to be worked basalt slabs.

HNABERD QUADRANT (*cont.*)*BURIAL CLUSTER 22*

PLACE NUMBER	Ar/Hn.382.01	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,357
UTM EASTING	429442	LATITUDE	40° 37.226'
UTM NORTHING	4496958	LONGITUDE	44° 09.949'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This small cluster was found on the southwestern outskirts of Gekhadzor village, 1.19 km east (bearing 64°) of Hnaberd Fortress (map quadrant B3j).

TOPOGRAPHY

These burials were placed on the upper slope of a small hill that descends into the village of Gekhadzor. There is considerable evidence of disturbance in the area, including boulders that may have served as capstones strewn across the surface. There are, however, no signs of looting.

GENERAL DESCRIPTION

This cluster includes only five small standard cromlechs, 3–5 m in diameter and built of medium, unworked basalt blocks. More burials may be in the vicinity, but the position of the tombs on the slope may have resulted in the submergence of some features.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 23

PLACE NUMBER	Ar/Hn.383.02	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,388
UTM EASTING	429311	LATITUDE	40° 36.689'
UTM NORTHING	4495965	LONGITUDE	44° 09.862'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Hnaberd Burial Cluster 23 is located in a rather isolated area south of Gekhadzor village, 1.06 km southeast (bearing 114°) of Hnaberd Fortress (map quadrant B3e).

TOPOGRAPHY

The burials of this cluster are on the slope of a low rise, among eroding outcrops and basalt boulders.

GENERAL DESCRIPTION

The burials of this cluster are all standard cromlechs except for a single large kurgan (feature 1) on the southwestern edge of the site. The cromlechs number approximately twenty and are built of medium, unworked basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a large kurgan, 16 m in diameter and 60 cm tall, making it the largest kurgan recorded in the Hnaberd survey quadrant. It is constructed of tuff and basalt cobbles piled over what appears from the surface to be an underlying earthen mound.

BURIAL CLUSTER 24

PLACE NUMBER	Ar/Hn.391.02	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,239
UTM EASTING	428610	LATITUDE	40° 37.761'
UTM NORTHING	4497962	LONGITUDE	44° 09.333'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 0.88 km west (bearing 280°) of Gekhadzor Fortress, this small cluster lies on the northern boundary of the Hnaberd survey quadrant (map quadrant B3m).

TOPOGRAPHY

The burials are set on a low eroding rock outcrop encircled by actively cultivated fields. They appear to rest on a small island of stone in a sea of agricultural fields. While the burials themselves do not appear to have been disturbed, it is quite possible that the burials may have once extended onto the plain proper and been subsequently destroyed.

GENERAL DESCRIPTION

This cluster consists of three kurgans ranging from 6 to 10 m in diameter and 50 to 80 cm tall. All three are constructed of small tuff and basalt cobbles.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 25

PLACE NUMBER	Ar/Hn.384.02	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,417
UTM EASTING	429309	LATITUDE	40° 36.409'
UTM NORTHING	4495445	LONGITUDE	44° 09.857'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 1.37 km southeast (bearing 137°) of Hnaberd Fortress, this cluster, along with Hnaberd Burial Clusters 1, 22, and 23, marks the eastern limit of Hnaberd survey quadrant burials, bounded to the east by a primary watercourse draining the slopes of Mount Aragats (map quadrant B3e).

TOPOGRAPHY

Hnaberd Burial Cluster 25 lies on the northeastern slope of a low eroding outcrop. There is some difficulty in defining cromlechs in the area due to piles of stone created by clearance of the adjacent agricultural fields.

GENERAL DESCRIPTION

Cromlechs appear to cover the entirety of this broad slope, an area approximately 300 m east–west × 75 m north–south (and may well have stretched into the adjacent areas now under cultivation). However, a large number of field piles, boulders, and other debris make it quite difficult to define the edges of the cluster. The burials are exclusively standard cromlechs, ranging from 3 to 6 m in diameter. All are constructed, as usual, of medium, unworked basalt blocks set in a circle around one to three basalt boulders that serve as capstones.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

LERNAPAR QUADRANT

BURIAL CLUSTER 1

PLACE NUMBER	Ar/Lp.01.01	ILLUSTRATION	Pl. 23
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,164
UTM EASTING	427664	LATITUDE	40° 44.609'
UTM NORTHING	4510634	LONGITUDE	44° 08.593'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

The first burial cluster of the Lernapar survey quadrant is located on the southern flank of Lernapar Fortress, just outside the fortification walls (map quadrant F2d).

TOPOGRAPHY

The hillside on which this burial cluster is set slopes steadily from north to south.

GENERAL DESCRIPTION

Burials are concentrated on the upper reaches of the hillside and extend laterally 200 m.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Burials in this cluster are exclusively standard cromlechs. None is of remarkable size or morphology.

BURIAL CLUSTER 2

PLACE NUMBER	Ar/Lp.05.01	ILLUSTRATION	Pl. 23
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,180
UTM EASTING	427536	LATITUDE	40° 44.064'
UTM NORTHING	4509627	LONGITUDE	44° 08.509'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Burial Cluster 2 of the Lernapar quadrant is located at the survey quadrant's southern limit, 1.03 km south (bearing 196°) of Lernapar Fortress (map quadrant E2p).

TOPOGRAPHY

These burials are located on a low ridge that marks an initial ascent toward the elevated flanks of Mount Kolgat. The ridge overlooks extensive agricultural fields.

GENERAL DESCRIPTION

The cromlechs in this cluster are, like those in Lernapar Burial Cluster 1, primarily standard-style cromlechs. Four are immediately visible; however, there appears to have been significant earth-moving activity in the area suggesting that the cluster may have once been more extensive.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

One uniquely large cromlech in the cluster is worth mentioning in more detail.

Feature 1 is a large (12.5 m in diameter) standard cromlech with two rings of unworked basalt blocks encircling several large basalt capstones. The burial is more evidently vertical than most standard cromlechs, with the inner ring set slightly higher (15 cm) than the outer and the capstones are not flush with the ground surface. Instead, the irregular capstones extend above the surrounding surface (20–60 cm).

MANTASH QUADRANT

BURIAL CLUSTER 1

PLACE NUMBER	Ar/Ma.06.01	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,253
UTM EASTING	426686	LATITUDE	40° 37.119'
UTM NORTHING	4496787	LONGITUDE	44° 07.995'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 1.6 km west (bearing 274°) of Hnaberd Fortress and 1.21 km southwest (bearing 204°) of Hnaberd village (map quadrant B2k).

TOPOGRAPHY

Mantash Burial Cluster 1 is set atop a small, low promontory oriented north–south. On the east and west sides, the promontory is flanked by creek beds draining this area of the Aragats slope.

GENERAL DESCRIPTION

The burial cluster of standard cromlechs covers the entire area of the promontory (approximately 20 m long × 5 m wide). Approximately five burials are visible, set roughly in a line along the promontory, spaced approximately 1 m apart.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a standard cromlech 3 m in diameter with a single outer circle of stones surrounding three basalt capstones defining a 1.5 × 1.0 m interior.

BURIAL CLUSTER 2

PLACE NUMBER	Ar/Ma.03.04	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,215
UTM EASTING	424783	LATITUDE	40° 37.433'
UTM NORTHING	4497386	LONGITUDE	44° 06.641'
PERIODIZATION	Middle Bronze or Late Bronze/Iron I		

ASSOCIATION

This large cluster is located 3.56 km west (bearing 282°) of Hnaberd Fortress, just 0.27 km from Mantash Stela 1 (map quadrant B2m).

TOPOGRAPHY

The burials are situated on a hilltop and immediate eastern slope.

GENERAL DESCRIPTION

Featuring thirty-five standard, spiral, mounded, and paved cromlechs as well as cist burial installations, this cluster is bounded by a linear stone construction on the north side. The burials are closely packed, but do not touch, and exhibit much evidence of erosion and fallen rock. The cluster is kidney shaped with an elongated north–south axis.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

MANTASH QUADRANT (*cont.*)

Feature 1 is a standard cromlech with three inscribed circumferential rings and a single central capstone. Medium basalt blocks are set in tight order in each of the rings. The burial is 1.85 m in diameter north–south × 1.67 m east–west.

BURIAL CLUSTER 3

PLACE NUMBER	Ar/Ma.03.02	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,242
UTM EASTING	423518	LATITUDE	40° 37.385′
UTM NORTHING	4497309	LONGITUDE	44° 05.745′
PERIODIZATION	Iron III(?)		

ASSOCIATION

Located 4.8 km west (bearing 280°) of Hnaberd Fortress, this small cluster lies in an isolated area 0.4 km northwest of Mantash Reservoir 2 (map quadrant B1p).

TOPOGRAPHY

Set on a gently sloping hillside that dips gently to the Tsaghkahovit Plain, the area includes a number of cultivated fields surrounded by piles of field clearance.

GENERAL DESCRIPTION

A cluster of small cist burials averaging less than 1 m on each side, this complex also includes one cromlech burial 16 m from the main formation.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 4

PLACE NUMBER	Ar/Ma.04.06	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,162
UTM EASTING	422712	LATITUDE	40° 37.550′
UTM NORTHING	4497412	LONGITUDE	44° 05.171′
PERIODIZATION	Iron III(?)		

ASSOCIATION

Located near the northern boundary of the survey quadrant, adjacent to the southern limit of agricultural fields, this cluster of cist burials is located 2.76 km southeast (bearing 125°) of Mets Mantash village (map quadrant B1o).

TOPOGRAPHY

The surrounding area slopes gently to the north, down to the fields reaching up from the plain below.

GENERAL DESCRIPTION

This cluster consists entirely of small cist burials, ranging from 50 cm square to 1.5 × 1.0 m rectangles. They are constructed of small, closely packed basalt and tuff cobbles, flush with the ground surface.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 6

PLACE NUMBER	Ar/Ma.13.01	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,252
UTM EASTING	423002	LATITUDE	40° 37.179'
UTM NORTHING	4496934	LONGITUDE	44° 05.380'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 5.28 km east (bearing 280°) of Hnaberd Fortress, this group of cromlechs appears rather isolated, with the cist clusters of Mantash Burial Clusters 3, 4, and 10 as its nearest neighbors (map quadrant B1k).

TOPOGRAPHY

The cromlechs are built on an elevated plateau that slopes gently to the northeast.

GENERAL DESCRIPTION

This cluster of only two identifiable tombs includes a standard cromlech and a budding cromlech.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a budding cromlech composed of a large standard cromlech with three inscribed circumferential rings of basalt blocks and an adjacent small standard cromlech. The main tomb is 2.55 m across with four capstones in the center. The single stone circle of the secondary tomb shares two large basalt blocks on the main tomb's northern side. The capstones are not clearly visible due to some disturbance.

BURIAL CLUSTER 7

PLACE NUMBER	Ar/Ma.17.03	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,309
UTM EASTING	425285	LATITUDE	40° 36.940'
UTM NORTHING	4496469	LONGITUDE	44° 07.004'
PERIODIZATION	Iron III or Medieval(?)		

ASSOCIATION

The easternmost of the Mantash quadrant cist burial clusters, Mantash Burial Cluster 7 is only 2.99 km west (bearing 274°) of Hnaberd Fortress (map quadrant B2i).

TOPOGRAPHY

This small cluster of cist burials is set on a gentle north-facing slope between two small streams that drain Mount Aragats.

GENERAL DESCRIPTION

Mantash Burial Cluster 7 includes two small cist burials that are, unusually, more circular in shape than rectangular or oval. The dating of the burials is problematic since they are somewhat large and too round for Iron Age III period cists, but yet too small for medieval burials.

ASSOCIATED FEATURES AND MATERIALS

Three small sherds were collected from atop the burials. None was clearly diagnostic.

Feature 1 is not well defined, but is quite large, measuring 4.0 m north–south × 3.2 m east–west. This burial has been recently disturbed with many cobbles strewn haphazardly to the north.

Feature 2 is in better condition, although only 3.0 × 2.8 m.

MANTASH QUADRANT (*cont.*)*BURIAL CLUSTER 8*

PLACE NUMBER	Ar/Ma.16.03	ILLUSTRATION	Figs. 38–39; Pls. 13, 80b
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,222
UTM EASTING	422127	LATITUDE	40° 37.062'
UTM NORTHING	4496728	LONGITUDE	44° 04.762'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Mantash Burial Cluster 8 is located 2.88 km southeast (bearing 129°) of Mets Mantash village, along the southern edge of agricultural fields (map quadrant B1k).

TOPOGRAPHY

The cromlech burials are predominantly set on the upper reaches of a gentle northerly slope. The kurgans cluster primarily on the lower slope, near the edge of the cleared fields.

GENERAL DESCRIPTION

The primary group of eight kurgans in this cluster extends along an east–west line just beyond the boundaries of the fields (this may be an effect of land amelioration rather than planned order). Several small cromlechs are barely visible interspersed between the kurgans. The most visible cromlechs are upslope, where two paved cromlechs are positioned.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Tomb 3 (pl. 80b) is a kurgan near the northern edge of the cluster that we excavated during in 2000 (figs. 38–39). The tomb consists of a mound of small to medium basalt blocks piled atop two large basalt capstones covering the central chamber and a smaller basalt plinth covering a smaller antechamber. The central chamber (A: 210 cm east–west × 180 cm north–south) is a simple earthen pit located in the center of the kurgan beneath two capstones. The antechamber (B) is a simple circular pit (90 cm in diameter) located to the west of chamber A. No human or faunal remains were found in either chamber. During the course of excavation several artifacts were found in the soil matrix above the kurgan mound, including a bronze mace-head and an iron trilobed point (fig. 39g–h). Chamber A included a single bronze dagger, three sizable concentrations of carnelian beads, a single obsidian point, and the remains of four ceramic vessels (fig. 39a, c, f, j–k, m–n). Chamber B contained a large quantity of paste and carnelian beads and three ceramic vessels (fig. 39b, d–e, i, o–p). The ceramics from within the tomb are typical of the Iron I period, but the artifacts found in the matrix above the mound suggest later activity in the area as well. In particular, the trilobed point is traditionally ascribed to Scythian manufacturing and dated to the Iron III period.

Project ArAGATS 2000
Ma BC 8
Tomb 3

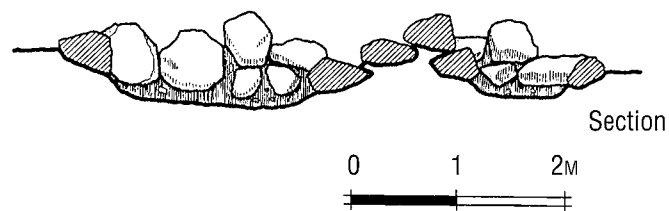
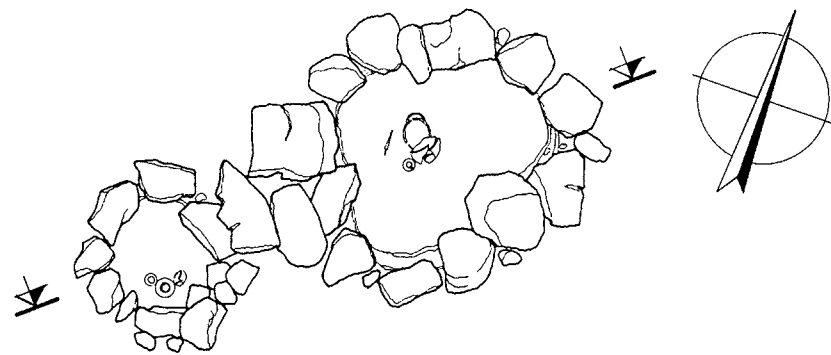
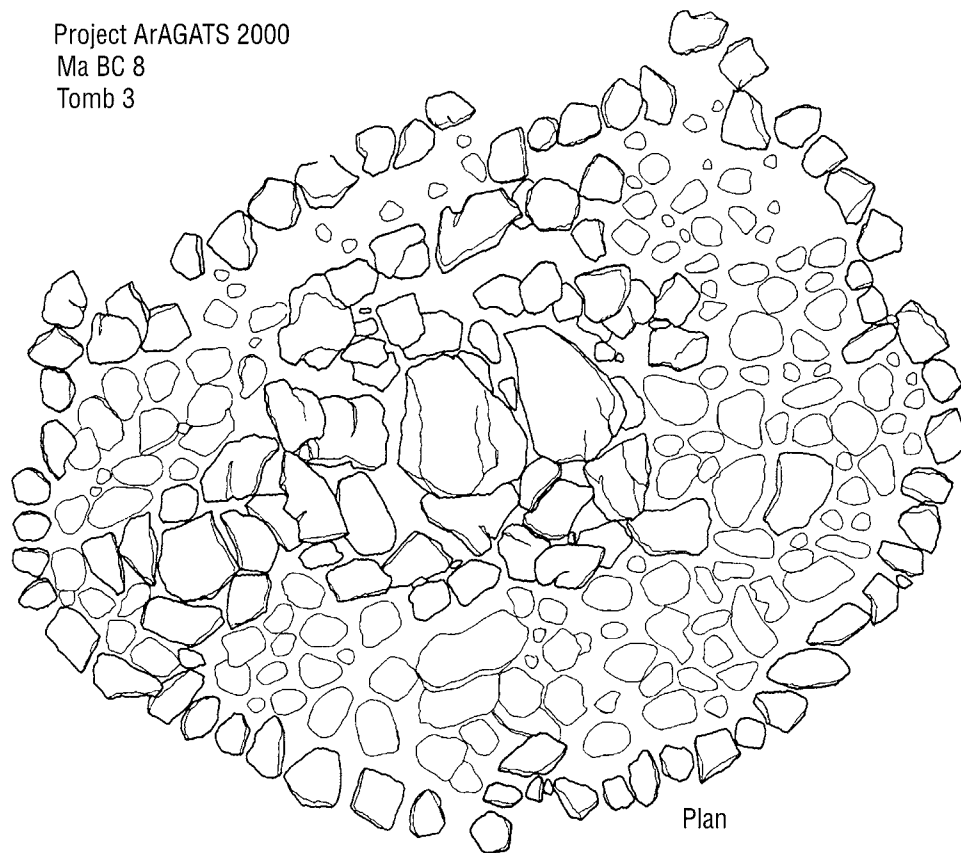


Figure 38. Mantash Burial Cluster 8 Tomb 3

Figure 39. Mantash Burial Cluster 8 Tomb 3 Iron Ia Materials (Ceramic Details)

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>
<i>Locus</i>	Burial Cluster 8 Tomb 3	Burial Cluster 8 Tomb 3	Burial Cluster 8 Tomb 3	Burial Cluster 8 Tomb 3	Burial Cluster 8 Tomb 3
<i>Sherd No.</i>	6	3	4	2	7
<i>Period</i>	Iron Ia	Iron Ia	Iron Ia	Iron Ia	Iron Ia
<i>Fragment</i>	Largely Complete	Whole	Whole	Whole	Whole
<i>Form</i>	Closed Jar (Storage)	Closed Jar	Jug	Closed Jar	Bowl
<i>Rim Variant</i>	Flared	Everted	Everted	Everted	Straight Rounded
<i>Exterior Color</i>	Buff	Buff	Brown	Black/Brown	Brown
<i>Interior Color</i>	Buff	Buff/Brown	Black/Buff	Brown	Brown
<i>Fabric Color</i>	Buff	—	—	—	Brown
<i>Inclusions</i>	Fine	Medium	Medium	Medium	Fine
<i>Slip</i>	Yes	Yes	Yes	Yes	Yes
<i>Surface Treatment</i>	Polished	Smoothed	Smoothed	Smoothed	Polished
<i>Rim Diameter / Percent</i>	12.0 cm / 90%	6.5 cm / 100%	8.0 cm / 100%	11.0 cm / 100%	16.0 cm / 100%

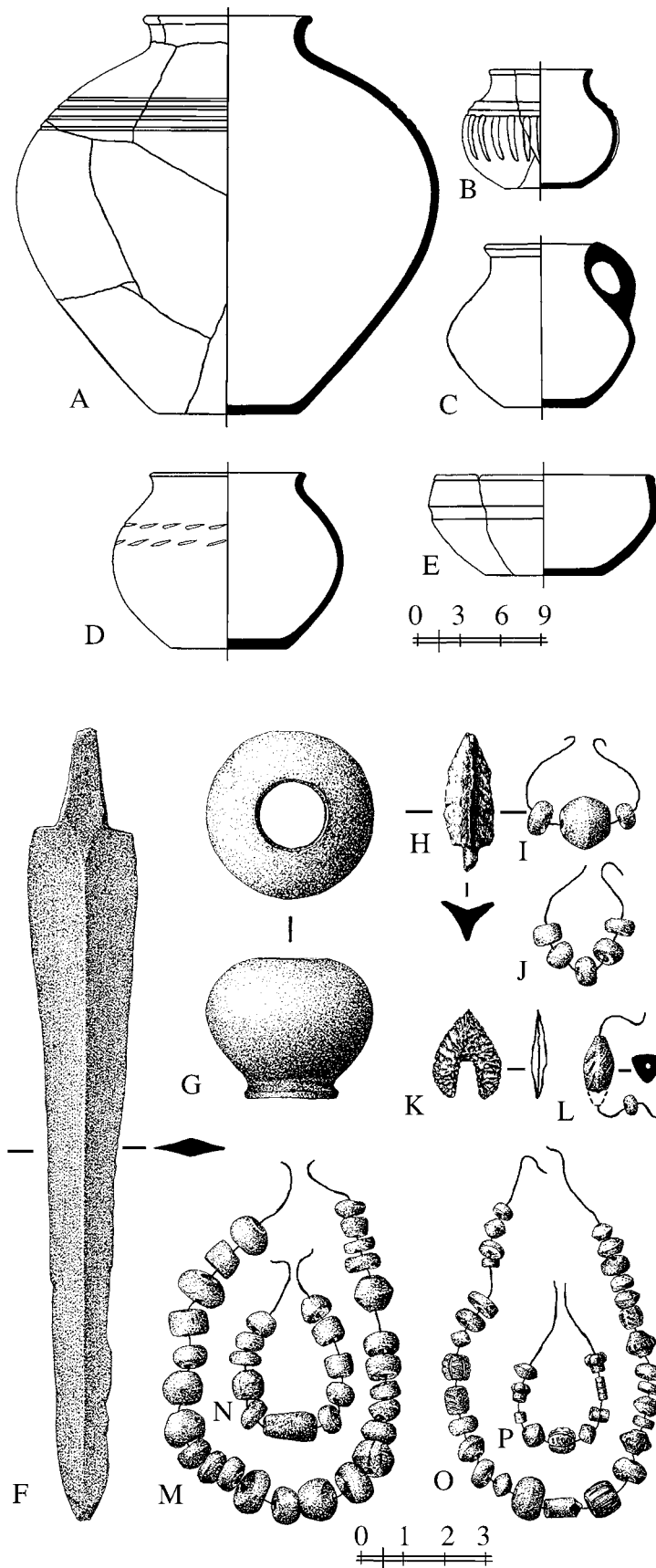


Figure 39. Materials from Mantash Burial Cluster 8 Tomb 3 Iron Ia Materials:
(a-e) Ceramics; (f) Bronze; (g-h) Iron; (k) Obsidian; and (i-j, l-p) Carnelian and Paste

MANTASH QUADRANT (*cont.*)*BURIAL CLUSTER 9*

PLACE NUMBER	Ar/Ma.26.01	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,299
UTM EASTING	422233	LATITUDE	40° 36.542'
UTM NORTHING	4495949	LONGITUDE	44° 04.843'
PERIODIZATION	Iron III/Iron IV(?)		

ASSOCIATION

Mantash Burial Cluster 9 is located 0.79 km west of the cist burials of Mantash Burial Cluster 10 and 3.56 km southeast (bearing 121°) of Mets Mantash village (map quadrant B1f).

TOPOGRAPHY

The burials cover the hilltop and northern slope of a high ridge overlooking a stream just below.

GENERAL DESCRIPTION

The cluster includes at least thirteen cist burials distributed across an area 81 m north–south, although the densest concentration is within the central 20 m.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a rectangular cist burial 1.9 × 1.5 m, constructed of small tuff and basalt cobbles. Set beside a large bedrock outcrop, the burial is flush with the ground surface.

BURIAL CLUSTER 10

PLACE NUMBER	Ar/Ma.23.02	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,336
UTM EASTING	423008	LATITUDE	40° 36.712'
UTM NORTHING	4496076	LONGITUDE	44° 05.392'
PERIODIZATION	Iron III(?)		

ASSOCIATION

Mantash Burial Cluster 10 is located 3.84 km southeast (bearing 219°) of Mets Mantash village (map quadrant B1g).

TOPOGRAPHY

The burial cluster is set on a gently sloping, north-facing hillside crowded with bedrock outcrops.

GENERAL DESCRIPTION

This cluster includes five widely spaced cist burials. The burials themselves are quite small, averaging less than 2 m across. Linear architecture remnants from a modern settlement are located 150 m to the south.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 11

PLACE NUMBER	Ar/Ma.22.01	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,340
UTM EASTING	425808	LATITUDE	40° 36.871'
UTM NORTHING	4496124	LONGITUDE	44° 07.377'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Mantash Burial Cluster 11 is located 2.52 km west (bearing 258°) of Hnaberd Fortress in an isolated area along the southern border of a cleared field (map quadrant B2f).

TOPOGRAPHY

This cluster lies on a relatively flat open area strewn with rocks and occasional large boulders.

GENERAL DESCRIPTION

The burials in this cluster include between ten and fifteen standard cromlechs, but they are often obscured by the rocky terrain. There are also a number of stone mounds in the vicinity that appear to be piles created by modern field clearance.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 12

PLACE NUMBER	Ar/Ma.26.08	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,363
UTM EASTING	427442	LATITUDE	40° 36.557'
UTM NORTHING	4495740	LONGITUDE	44° 08.538'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster of kurgans and cromlechs is located 1.23 km southwest (bearing 227°) of Hnaberd Fortress, adjacent to Mantash Burial Clusters 13, 29, and 30 (map quadrant B2h).

TOPOGRAPHY

The burials are set on a gentle slope that drops down to a streambed 30 m to the east.

GENERAL DESCRIPTION

This cluster includes four kurgans and at least two standard cromlechs. The kurgans are generally small, with a maximum diameter of 13 m, suggesting that they date to the early Late Bronze rather than the Middle Bronze. The association with cromlechs may further support this chronological assignment.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a kurgan 13.3 m in diameter east–west × 12.0 m in diameter north–south. It was constructed of a single ring of basalt blocks circumscribing a mound of small basalt and tuff cobbles that rises less than 1 m above the surrounding hillside. The top of the kurgan appears to be slightly indented suggesting either a burial pit that has slumped or the impact of looting. If looting, it was probably robbed in antiquity as no materials were found in association.

MANTASH QUADRANT (*cont.*)*BURIAL CLUSTER 13*

PLACE NUMBER	Ar/Ma.31.01	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,371
UTM EASTING	427370	LATITUDE	40° 36.398'
UTM NORTHING	4495445	LONGITUDE	44° 08.491'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

These kurgans are located 1.52 km southwest (bearing 216°) of Hnaberd Fortress, adjacent to Mantash Burial Cluster 29 and the kurgans of Mantash Burial Cluster 12 (map quadrant B2h).

TOPOGRAPHY

The kurgans rise from a hillside that slopes eastward down to a streambed.

GENERAL DESCRIPTION

Mantash Burial Cluster 13 includes five very small kurgans — none is over 5 m in diameter. The burials are evenly spaced defining a site about 60 m in perimeter. The small size of the kurgans and close association with cromlechs in Mantash Burial Cluster 29 suggests they were constructed during the initial phase of the Late Bronze Age.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is the largest kurgan in the group, 6.5 m in diameter. The construction of the kurgan is not visible, although it may be built of an earthen tumulus rather than a mound of cobbles. A modern pile of stones on top suggests some disturbance to the area, but there is no evidence that the tomb has been looted.

BURIAL CLUSTER 14

PLACE NUMBER	Ar/Ma.34.02	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,387
UTM EASTING	422311	LATITUDE	40° 36.323'
UTM NORTHING	4495357	LONGITUDE	44° 04.902'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Mantash Burial Cluster 14 is located 4.13 km southeast (bearing 139°) of Mets Mantash village, adjacent to Mantash Isolated Architecture 14 (map quadrant B1f).

TOPOGRAPHY

This substantial cluster of cromlechs is set on the western slope of a small hill.

GENERAL DESCRIPTION

The cluster consists of more than twenty standard and spiral cromlechs oriented along a broad band running north–south across the slope. Many burials are very poorly preserved due to erosion and rock fall.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is an excellent example of the spiral cromlech form. Measuring 5.1 m in diameter, the spiral begins on the south side, curling in two visible circles into the center of the burial where three medium capstones mark the central chamber.

BURIAL CLUSTER 15

PLACE NUMBER	Ar/Ma.32.06	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,371
UTM EASTING	421678	LATITUDE	40° 36.357'
UTM NORTHING	4495427	LONGITUDE	44° 04.453'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This very large burial cluster is located 3.81 km southeast (bearing 143°) of Mets Mantash village. Mantash Burial Cluster 16 appears on the far northern end of this cluster (map quadrant B1f).

TOPOGRAPHY

Like Mantash Burial Cluster 16, this huge cemetery is set in a broad band across a steep west-facing slope broken by large bedrock outcrops.

GENERAL DESCRIPTION

The entire cluster extends across 260 m north–south of the hillside. A group of thirteen small kurgans is located near the center, with standard and spiral cromlechs radiating outward. The interdigitation of small kurgans and cromlechs suggests the cemetery dates to the Late Bronze. Its size suggests it was used over a considerable period of time, perhaps extending from an initial founding during the early Late Bronze.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 16

PLACE NUMBER	Ar/Ma.28.06	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,371
UTM EASTING	421725	LATITUDE	40° 36.564'
UTM NORTHING	4495811	LONGITUDE	44° 04.484'
PERIODIZATION	Iron III/Iron IV(?)		

ASSOCIATION

Located 3.41 km southeast (bearing 142°) of Mets Mantash village, Mantash Burial Cluster 16 is at the far northern end of Mantash Burial Cluster 15 (map quadrant B1f).

TOPOGRAPHY

Like Mantash Burial Cluster 15, this cluster of cist burials is set on a steep west-facing slope pockmarked with eroded outcrops of bedrock.

GENERAL DESCRIPTION

Running north–south, parallel to a large bedrock outcrop to the east, this cluster of burials is marked by highly discrete tomb constructions. The large field of burial installations features a large number of cist burials separated by an average of 3–4 m. Bedrock outcrops make it impossible to provide an accurate estimate of how many burials

MANTASH QUADRANT (*cont.*)

are present, but they extend across a wide band along the slope of the hill approximately 100 m north–south \times 15 m east–west. The burials appear to be quite discrete, clustering in groups of two or three.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a typical small cist burial, consisting of a square cluster of small basalt and tuff cobbles. The burial is flat with the ground surface.

BURIAL CLUSTER 17

PLACE NUMBER	Ar/Ma.49.01	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,502
UTM EASTING	426598	LATITUDE	40° 35.920'
UTM NORTHING	4494568	LONGITUDE	44° 07.948'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 2.70 km southwest (bearing 229°) of Hnaberd Fortress, this small cluster appears in a relatively isolated area, well up the slope of Mount Aragats (map quadrant B2c).

TOPOGRAPHY

These cromlechs are set on a small flat area just below a gently sloping hill.

GENERAL DESCRIPTION

Constructed in a line running north–south, this cluster consists of two standard cromlechs and one spiral cromlech. The burials are poorly preserved and tightly packed.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 18

PLACE NUMBER	Ar/Ma.42.02	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,468
UTM EASTING	422271	LATITUDE	40° 36.091'
UTM NORTHING	4494929	LONGITUDE	44° 04.877'
PERIODIZATION	Iron III/Iron IV(?)		

ASSOCIATION

Located 4.56 km southeast of Mets Mantash village, Mantash Burial Cluster 18 is adjacent to Mantash Burial Cluster 19 (map quadrant B1b).

TOPOGRAPHY

These burials are located on the side of a steep eroded slope.

GENERAL DESCRIPTION

Running in a 25 m wide band along the eastern slope of the ridge, this cluster of cist burials includes approximately thirty mortuary installations. They are spaced 1–10 m apart along a 150 m band, 25 m wide. Each burial is of largely identical construction: small rectangular clusters of stone cobbles, approximately 1.5 \times 0.3 m.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1: is larger than most of the other cist burials. Small basalt cobbles define a rectangular form, 1.74 m north–south \times 1.5 m east–west. The cobbles create a slight mound that reaches 30 cm above ground surface.

BURIAL CLUSTER 19

PLACE NUMBER	Ar/Ma.42.04	ILLUSTRATION	Pls. 13, 80d
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,510
UTM EASTING	422131	LATITUDE	40° 36.105'
UTM NORTHING	4494956	LONGITUDE	44° 04.778'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 4.48 km southeast (bearing 153°) of Mets Mantash village and 1.2 km east of Mantash Gorge, Mantash Burial Cluster 19 is adjacent to Mantash Burial Clusters 18 and 20 (map quadrant B1b).

TOPOGRAPHY

This large cluster occupies the summit of a high north–south-oriented ridge.

GENERAL DESCRIPTION

Extending for more than half a kilometer along a ridge above Mantash Gorge, this large burial cluster includes kurgan, standard cromlech, and mounded cromlech burials. Bedrock outcrops, erosion, and rock fall obscure the exact orientation of burials in many sections and preclude a clear census. Unusually large capstone boulders are not uncommon in this cluster.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 (pl. 80d) is a large kurgan located near the center of the cluster. It is 11 m in diameter with a mound that rises approximately 1 m above the surrounding ground surface. Atop the mound is a massive basalt boulder 2.0 \times 1.5 m that rises another 1 m above the ground. No circumscribing ring of stones is visible. The mound itself is made of small basalt and tuff cobbles with a few interspersed large blocks of basalt.

Feature 2 is a standard cromlech with two circumferential rings of stones surrounding a single large capstone. 5.2 m in diameter, the outer ring is made primarily of small basalt blocks, while large stones predominate in the second ring.

BURIAL CLUSTER 20

PLACE NUMBER	Ar/Ma.42.05	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,379
UTM EASTING	421776	LATITUDE	40° 36.106'
UTM NORTHING	4494963	LONGITUDE	44° 04.526'
PERIODIZATION	Middle Bronze or Late Bronze/Iron I		

ASSOCIATION

Just 0.88 km east of Mantash Gorge, Mantash Burial Cluster 20 is the westernmost in the line of burial clusters that includes Mantash Burial Clusters 18 and 19 (map quadrant B1b).

MANTASH QUADRANT (*cont.*)

TOPOGRAPHY

Mantash Burial Cluster 20 is located at the bottom of the west flank of the same extended ridge that has Mantash Burial Cluster 18 on the east slope and Mantash Burial Cluster 19 on its summit.

GENERAL DESCRIPTION

This cluster of at least nineteen cobble and standard cromlechs meanders along the base of the slope. Bedrock outcrops and piles of cleared stones make it difficult to discern many of the mortuary remains.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 21

PLACE NUMBER	Ar/Ma.53.02	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,593
UTM EASTING	423788	LATITUDE	40° 35.821'
UTM NORTHING	4494413	LONGITUDE	44° 05.956'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This small group of cromlechs is located just 0.8 km west of Mantash Settlement 1 (map quadrant B2d).

TOPOGRAPHY

The burials were found on the same hilltop as Mantash Settlement 1.

GENERAL DESCRIPTION

A small cluster of four standard cromlechs.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 22

PLACE NUMBER	Ar/Ma.58.01	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,326
UTM EASTING	421581	LATITUDE	40° 36.364'
UTM NORTHING	4495443	LONGITUDE	44° 04.385'
PERIODIZATION	Late Bronze		

ASSOCIATION

Located 3.75 km southeast (bearing 155°) of Mets Mantash village, this cluster is adjacent to (and a possible continuation of) Mantash Burial Cluster 15 (map quadrant B2f).

TOPOGRAPHY

This place is located on the lower reaches of a west-facing slope with a cleared field at its base.

GENERAL DESCRIPTION

This cluster of more than thirty kurgans and cromlechs also includes numerous bedrock outcrops and piles of cleared stone which obscure the installations. The cluster is approximately 125 m north–south × 30 m east–west. The burials are closely packed.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a cobble cromlech 1.5 m in diameter. It is constructed of a flat ring of basalt and tuff cobbles that surround a central capstone.

Feature 2 is a kurgan, also constructed of small basalt and tuff cobbles. The feature is 5.25 m in diameter and rises less than a meter above the surrounding surface.

BURIAL CLUSTER 24

PLACE NUMBER	Ar/Ma.58.03	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,282
UTM EASTING	421582	LATITUDE	40° 36.547'
UTM NORTHING	4495779	LONGITUDE	44° 04.382'
PERIODIZATION	Late Bronze/Iron I, Iron III/Iron IV(?)		

ASSOCIATION

This very large cluster is located 3.5 km southeast (bearing 150°) of Mets Mantash village, between Mantash Burial Cluster 16 and Mantash Burial Cluster 25. Mantash Gorge is 0.8 km to the west (map quadrant B1f).

TOPOGRAPHY

As one of the largest cemeteries encountered during the survey, Mantash Burial Cluster 24 sprawls across a gently sloping hillside.

GENERAL DESCRIPTION

With more than 147 burials, this cluster of kurgans, standard cromlechs, and cist burials is extraordinarily large. Over fifty kurgans mingle among roughly seventy-five small to medium cromlechs and twenty-three variably sized cists. Piles of stone and bedrock outcrops are also abundant, occasionally obscuring constructions and interfering with an overall count.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a large cist burial oriented north–south built of small tuff cobbles arranged in a rectangle 1.8 × 1.0 m. The size of the cist is unusual for what are usually taken as Antique-period burials. There is a possible resemblance to later medieval burials, but those tend to be substantially larger.

Feature 2 is a moderately sized irregular kurgan, 7.6 m in diameter north–south × 6.8 m in diameter east–west. A large capstone atop the mound suggests an interior chamber built on the ground surface rather than sunk below it as in most traditional kurgans. Surrounding the kurgan are a series of small standard “satellite” cromlechs averaging 1.5 m in diameter. It is difficult to see if this relationship is intentional or a result of the close packing of burials.

MANTASH QUADRANT (*cont.*)*BURIAL CLUSTER 25*

PLACE NUMBER	Ar/Ma.63.01	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,269
UTM EASTING	421306	LATITUDE	40° 36.567'
UTM NORTHING	4495821	LONGITUDE	44° 04.186'
PERIODIZATION	Late Bronze/Iron I, Iron III(?)		

ASSOCIATION

Located near the western boundary of the Aragats survey area (map quadrant B1f) adjacent to Mantash Burial Cluster 24 (Ar/Ma.58.03). A cleared field now separates the two burial clusters suggesting that they may have once been part of a single very large cemetery.

TOPOGRAPHY

The site is located on the top and northeast slope of a high ridge which slowly descends to the west into the Mantash River canyon. Cleared agricultural fields provide boundaries to the north and east.

GENERAL DESCRIPTION

This large cluster of burials is primarily composed of small cists (thirty-seven visible from surface) constructed of tightly packed stone (tuff and basalt) cobbles set in a rough square or rectangle. Four to six cromlechs were also recorded on the northern edge of the cemetery. The density of burials is quite high, making it somewhat difficult to isolate individual burials and take a true count. However, a few discrete constructions did allow for more direct measurement.

ASSOCIATED FEATURES AND MATERIALS

The cist graves ranged from 0.90 to 1.08 m in length and from 45 to 60 cm in width. They do not appear to have a consistent orientation and they are either even with the contemporary ground surface or only very slightly mounded.

BURIAL CLUSTER 27

PLACE NUMBER	Ar/Ma.58.04	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,248
UTM EASTING	421589	LATITUDE	40° 36.830'
UTM NORTHING	4496303	LONGITUDE	44° 04.382'
PERIODIZATION	Late Bronze/Iron I, Iron III		

ASSOCIATION

Mantash Burial Cluster 27 was found 0.52 m due north of Mantash Burial Cluster 24, 3.08 km southeast (bearing 145°) of Mets Mantash village (map quadrant B1j).

TOPOGRAPHY

Mantash Burial Cluster 27 sprawls across the lower western flank of an extended north-south-oriented ridge.

GENERAL DESCRIPTION

This large burial cluster contains more than forty kurgans, standard cromlechs, and cist mortuary installations. Many of the burials are disturbed by fallen rock, bedrock outcrops, and erosion, making a more accurate count

difficult. The kurgans tend to be quite small — 1.5–2.0 m in diameter — and only slightly mounded above ground surface. In this sense they are morphologically quite close to mounded cromlechs, but no surrounding ring of stones is visible. Indeed, the smallest kurgans are similar to large cist burials in their construction (although not in their shape), pointing to the difficulty in some instances of accurately identifying burial types from surface remains alone.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 28

PLACE NUMBER	Ar/Ma.67.01	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,435
UTM EASTING	427349	LATITUDE	40° 36.217'
UTM NORTHING	4495108	LONGITUDE	44° 08.476'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located on the west bank of a small watercourse that descends the slope of Mount Aragats, south-southwest of Hnaberd Fortress (map quadrant B2d), this site is one of the easternmost burial clusters in the Mantash survey quadrant.

TOPOGRAPHY

Unlike most burial clusters in the area, this one is sited on the slope of a gentle rise, overlooking a small stream. The watercourse appears to have flooded its banks at times and cut into the burials, causing some erosion around the eastern edge of the cluster.

GENERAL DESCRIPTION

The mounded cromlechs at this site are widely spaced (15–30 m apart) and of moderate size.

ASSOCIATED FEATURES AND MATERIALS

Feature 1 is a moderately sized cobble cromlech 1.9 m in diameter. The burial was constructed using two rings of mounded basalt and tuff cobbles. At the center of the construction is a slight hollow and no capstone is visible.

Feature 2 is a mounded cromlech 2.3 m in diameter with a single visible outer ring of stones framing an earthen mound that rises only 10 cm above the surrounding ground level.

BURIAL CLUSTER 29

PLACE NUMBER	Ar/Ma.68.01	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,373
UTM EASTING	427423	LATITUDE	40° 36.435'
UTM NORTHING	4495513	LONGITUDE	44° 08.527'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located on a ridge south-southwest of Hnaberd Fortress (map quadrant B2h), this site is one of the westernmost burial clusters on the north slope of Mount Aragats. The site is located due north of Mantash Burial Cluster 28, along the same watercourse.

MANTASH QUADRANT (*cont.*)

TOPOGRAPHY

The site sits atop a low ridge that runs roughly north–south.

GENERAL DESCRIPTION

This cluster of burials is composed of six spiral cromlechs with very large capstones. Several of the burials are somewhat unusual in that the capstones are not level with the top of the grave but rather rise 1–2 m above the ground level.

ASSOCIATED FEATURES AND MATERIALS

Feature 1 is a large irregular spiral cromlech 5.0 m in diameter north–south \times 3.5 m in diameter east–west. The large basalt circle spirals toward the center, defining two to three rings around the capstone. Scattered between the construction stones are basalt cobbles. The basalt capstone towers 1.8 m above the ground surface.

BURIAL CLUSTER 32

PLACE NUMBER	Ar/Ma.61.01	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,202
UTM EASTING	421513	LATITUDE	40° 37.107'
UTM NORTHING	4496816	LONGITUDE	44° 04.325'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located just north of Mantash Burial Cluster 33 and south of Mantash Burial Cluster 34 near the far western boundary of the Mantash survey quadrant (map quadrant B1j).

TOPOGRAPHY

This burial cluster is located on a gently sloping low ridge which overlooks a small plateau to the south that marks the foot of Aragats and the highest upward reach of active cultivation.

GENERAL DESCRIPTION

This burial cluster features five to eight standard cromlechs with very large capstones visible on the surface.

ASSOCIATED FEATURES AND MATERIALS

There has been some field clearance activity nearby which has resulted in a number of large boulders being thrown close to the burial cluster. However, no surface materials were visible.

BURIAL CLUSTER 33

PLACE NUMBER	Ar/Ma.58.06	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,214
UTM EASTING	421592	LATITUDE	40° 37.018'
UTM NORTHING	4496652	LONGITUDE	44° 04.383'
PERIODIZATION	Middle Bronze/Late Bronze		

ASSOCIATION

Located 2.64 km southeast (bearing 154°) of Mets Mantash village, Mantash Burial Cluster 33 is 0.35 km due north of Mantash Burial Cluster 27 and just 0.18 km southeast of Mantash Burial Cluster 32 (map quadrant B1j).

TOPOGRAPHY

The burial cluster as a whole is spread across the lower western slope of a gentle hill. Just to the west, a small stream cuts across a flat area leading down toward agricultural fields to the north.

GENERAL DESCRIPTION

This cluster of six kurgans and four standard cromlechs has a unique spatial organization. The kurgans are all uniformly spaced at the base of the slope, extending in a slight arc 57 m north–south. The kurgans are spaced approximately 3 m apart with the cromlechs appearing primarily upslope.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is an irregular kurgan, third from the northernmost in the line. It is 5.0 m in diameter north–south and 5.5 m east–west. The top of the mound rises 0.5 m above the surrounding surface. It is built of tuff and basalt cobbles. At the top of the mound, slightly off center to the southeast, is a large basalt block, but it is unclear if this is part of the construction.

BURIAL CLUSTER 34

PLACE NUMBER	Ar/Ma.60.05	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,,200
UTM EASTING	421527	LATITUDE	40° 37.122'
UTM NORTHING	4496844	LONGITUDE	44° 04.336'
PERIODIZATION	Middle Bronze/Late Bronze		

ASSOCIATION

These kurgans are located on the north side of Mantash Burial Cluster 32, 2.44 km southeast (bearing 155°) of Mets Mantash village (map quadrant B1j).

TOPOGRAPHY

The kurgans are set on an extended flat area leading to a series of fields that mark the southern limit of agriculture on this part of the Aragats slope.

GENERAL DESCRIPTION

The more than ten kurgans in this cluster are constructed from small cobbles of tuff and basalt. They range from 3.0 to 6.0 m in diameter with low mounds that extend an average of only 0.3 m above the ground surface.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 35

PLACE NUMBER	Ar/Ma.63.03	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,166
UTM EASTING	421331	LATITUDE	40° 37.318'
UTM NORTHING	4497208	LONGITUDE	44° 04.193'
PERIODIZATION	Iron III(?)		

ASSOCIATION

Located just to the northeast of Mantash Burial Cluster 34 (map quadrant B1i).

MANTASH QUADRANT (*cont.*)

TOPOGRAPHY

The site is located on a slight rise surrounded by active agricultural fields. Here, the lower spurs of Mount Aragats flatten out, leading to more active land use. Piles of bulldozed boulders suggest the area was the approximate vertical limit of land amelioration programs in the area above Mets Mantash village.

GENERAL DESCRIPTION

This burial cluster is composed entirely of cist burials packed very tightly in an area roughly 80 m north–south × 30 m east–west. Surface examination indicates approximately thirty-five clearly definable cist burials built of small basalt cobbles packed tightly into a square or rectangular construction. The edges of the cemetery appear to be disturbed by agricultural clearance, but the central area remains intact.

ASSOCIATED FEATURES AND MATERIALS

Feature 1 is a particularly discrete burial in the cluster, 1.42 m long north–south × 1.41 m wide east–west. It was constructed of small basalt cobbles and slightly mounded in the center, raising it slightly above the surrounding surface.

BURIAL CLUSTER 36

PLACE NUMBER	Ar/Ma.50.01	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,216
UTM EASTING	421243	LATITUDE	40° 36.852'
UTM NORTHING	4496348	LONGITUDE	44° 04.138'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 2.82 km southeast (bearing 158°) of Mets Mantash village and 1.74 km east of Mantash Gorge, Mantash Burial Cluster 36 lies in a crowded area on the western edge of the survey area, west of Mantash Burial Cluster 27 (map quadrant B1j).

TOPOGRAPHY

This place is located near the bottom of a small river valley, a tributary of the Mantash River.

GENERAL DESCRIPTION

This cluster is quite small, including just seven closely packed standard cromlechs averaging 2 m in diameter. Preservation appears to be quite good, with little evidence of disturbance.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 37

PLACE NUMBER	Ar/Ma.50.02	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,214
UTM EASTING	421212	LATITUDE	40° 36.832'
UTM NORTHING	4496312	LONGITUDE	44° 04.116'
PERIODIZATION	Middle Bronze or Late Bronze		

ASSOCIATION

Mantash Burial Cluster 37 lies on the southern end of Mantash Burial Cluster 36, 2.82 km southeast (bearing 159°) of Mets Mantash village (map quadrant B1j).

TOPOGRAPHY

Like Mantash Burial Cluster 37, this cluster of kurgans lies at the bottom of a small valley bisected by a swiftly flowing tributary of the Mantash River.

GENERAL DESCRIPTION

The cluster includes nine closely packed kurgans averaging 4–5 m in diameter. Only an average of 2 m separates each installation.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

SAHAKABERD QUADRANT

BURIAL CLUSTER 1

PLACE NUMBER	Ar/Sk.242.03	ILLUSTRATION	Pls. 15–16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,195
UTM EASTING	432369	LATITUDE	40° 37.214'
UTM NORTHING	4496897	LONGITUDE	44° 12.029'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Sahakaberd Burial Cluster 1 is located near the base of Mount Aragats, within the area of a military practice range. It is 1.0 km west (bearing 269°) of Tsaghkahovit Burial Cluster 79 (map quadrant B4i).

TOPOGRAPHY

The area around this cluster has been highly disturbed by military activities in the area. Bunkers dug into the ground pockmark the area of the cemetery.

GENERAL DESCRIPTION

While numerous disturbed tombs are visible, none is clear in its entirety. The area of the cluster is approximately 30 m north–south × 25 m east–west. An accurate estimate of the number of burials is not possible; however, all appear to be standard cromlechs 3.5–5.0 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

SAHAKABERD QUADRANT (*cont.*)*BURIAL CLUSTER 2*

PLACE NUMBER	Ar/Sk.295.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,211
UTM EASTING	433029	LATITUDE	40° 36.858'
UTM NORTHING	4496230	LONGITUDE	44° 12.503'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

The easternmost of the Sahakaberd survey quadrant burial clusters, Sahakaberd Burial Cluster 2 is located 0.38 km west (bearing 253°) of Tsaghkahovit Burial Cluster 89 (map quadrant B4e).

TOPOGRAPHY

Sahakaberd Burial Cluster 2 was found among denuded bedrock and large eroding boulders atop a north–south-oriented ridgeline. To the west, the terrain flattens considerably as Mount Aragats retreats slightly southward.

GENERAL DESCRIPTION

Only ten cromlechs were detected in this cluster, but many more may well be obscured by the eroded bedrock of the ridge. All those recorded were standard cromlechs, approximately 3.0–5.5 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 3

PLACE NUMBER	Ar/Sk.313.02	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,291
UTM EASTING	432885	LATITUDE	40° 36.748'
UTM NORTHING	4496041	LONGITUDE	44° 12.396'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster of burials was found 0.24 km southwest (bearing 217°) of Sahakaberd Burial Cluster 2 and 0.35 km east of buildings associated with an adjacent military base (map quadrant B4e).

TOPOGRAPHY

Unlike most burials in the Sahakaberd survey quadrant, which tend to cluster along ridgetops, this group of cromlechs was found in a narrow, roughly north–south-oriented valley between two eroded ridges. The slope on the western edge of the cluster is particularly denuded, raising the possibility that burials may at one time have climbed the adjacent hillsides.

GENERAL DESCRIPTION

Six standard cromlechs and four bedrock cromlechs were recorded in this cluster, spread broadly across an area approximately 65 m north–south × 30 m east–west. All were of the standard variety, ranging in diameter from 3 to 4 m and constructed of medium, unworked basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a moderately sized standard cromlech quite typical of this rather far-flung cluster. It is more elliptical than circular, 4.6 m in diameter east–west × 4.6 m north–south. The outer ring is built of medium to large, shaped basalt boulders surrounding two large rectangular central capstones.

BURIAL CLUSTER 4

PLACE NUMBER	Ar/Sk.311.04	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,363
UTM EASTING	431816	LATITUDE	40° 36.799′
UTM NORTHING	4496156	LONGITUDE	44° 11.645′
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Sahakaberd Burial Cluster 4 is located in a relatively isolated area, 0.7 km southeast (bearing 117°) of Sahakaberd Fortress, just 0.17 km southeast of the western building complex of military base (map quadrant B3h).

TOPOGRAPHY

The burials of this cluster are set on a very gentle north-facing slope, below a broad, rounded, elliptical hill.

GENERAL DESCRIPTION

Despite the unusual relief of the surrounding terrain (flat and open), this cluster is quite large compared to those in the immediate surroundings, hosting no less than fifty cromlechs. Most appear to be either standard or paved cromlechs packed into a relatively dense array in an area 76 m north–south × 65 m east–west. The cromlechs are all built from medium to large, unworked basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 5

PLACE NUMBER	Ar/Sk.314.02	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,305
UTM EASTING	432065	LATITUDE	40° 36.743′
UTM NORTHING	4496040	LONGITUDE	44° 11.815′
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 0.98 km southeast (bearing 117°) of Sahakaberd Fortress, this cluster is located just south of the central building complex of a military base (map quadrant B3h).

TOPOGRAPHY

The burials of Sahakaberd Burial Cluster 5 lie on a largely flat plateau at the foot of Mount Aragats, in an area that is highly disturbed both by cultivation and the activities of the military base.

GENERAL DESCRIPTION

Most likely due to disturbance in the area, the twenty-one small paved cromlechs that are visible in Sahakaberd Burial Cluster 5 are divided into three discrete subclusters. All the cromlechs are between 3 and 4 m in diameter, constructed of medium, unworked basalt blocks.

SAHAKABERD QUADRANT (*cont.*)

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 6

PLACE NUMBER	Ar/Sk.314.03	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,251
UTM EASTING	432449	LATITUDE	40° 36.755'
UTM NORTHING	4496057	LONGITUDE	44° 12.087'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Sahakaberd Burial Cluster 6 is located on both sides of two concrete irrigation ditches that ascend the slope of Mount Aragats, 1.32 km southeast (bearing 108°) of Sahakaberd Fortress (map quadrant B4e).

TOPOGRAPHY

The setting of Sahakaberd Burial Cluster 6 is quite unique within the constellation of burial clusters on the north slope of Mount Aragats. The burials spread across a segment of an alluvial fan, 225 m wide at its maximum extent, circumscribed on both the east and west sides by active watercourses. The area marks the terminus of Mount Aragats, where its waters spread out from informal drainage courses onto the flat Tsaghkahovit Plain.

GENERAL DESCRIPTION

An estimated twenty-seven cromlechs survive in this cluster, despite the surrounding terrain and proximity to a military base. Seventeen standard, ten paved, and one mounded cromlech are clearly visible, between 2 and 4 m in diameter. Interestingly, the burials in this cluster appear to be laid out in irregular linear rows, running roughly west–east. However, it is unclear whether this is part of a formal planned mortuary cluster or the result of subsequent disturbance. All are built of medium basalt blocks. The total area of the cluster is 80 m north–south × 60 m east–west.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a paved cromlech, 2 m in diameter. It is constructed of medium basalt blocks set in a single circumferential ring. Within this ring, basalt blocks interdigitate to form a tight paving.

Feature 2 is a mounded cromlech, 4 m in diameter, the only such burial found within this cluster. It is located on the eastern edge of the cluster. The burial is circumscribed by a single ring of medium, unworked basalt blocks surrounding a mound of basalt and tuff cobbles.

BURIAL CLUSTER 7

PLACE NUMBER	Ar/Sk.323.04	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,309
UTM EASTING	432574	LATITUDE	40° 36.601'
UTM NORTHING	4495773	LONGITUDE	44° 12.177'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster of cromlechs was found 0.31 km southeast (bearing 156°) of Sahakaberd Burial Cluster 6, just 0.21 km south of the easternmost cluster of buildings within an adjacent military base (map quadrant B4e).

TOPOGRAPHY

Sahakaberd Burial Cluster 7 rests on the gentle northern slope of a highly eroded lower spur of Mount Aragats. The southern extent of the cluster appears to have been disturbed by vehicle traffic, most likely related to the adjacent military base.

GENERAL DESCRIPTION

The burials in this cluster are quite submerged, making an effective census difficult (although at least sixty-five were clearly visible). Both standard and paved cromlechs were noted in the area, all ranging between 2.5 and 4.0 m in diameter and constructed of medium, unworked basalt blocks. On the west side of this cluster, the more discrete burials yield to three tightly packed linear arrangements, or cromlech ribbons. The eastern ribbon is rather small, composed of only four to six paved cromlechs. The central ribbon is much larger with no less than twenty-four paved and standard cromlechs. The western ribbon is by far the largest, approximately 55 m long \times 7–10 m wide. The cromlechs are so closely packed as to be impossible to count, but can be no fewer than thirty-five burials.

ASSOCIATED FEATURES AND MATERIALS

No surface materials except an exploded Soviet-period shell.

Feature 1 is the central ribbon of tightly packed cromlechs approximately 24 m long \times 18 m wide. The twenty-four burials that make up this group are all constructed of medium, unworked and shaped basalt blocks.

BURIAL CLUSTER 8

PLACE NUMBER	Ar/Sk.323.07	ILLUSTRATION	Pls. 15–16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,332
UTM EASTING	432313	LATITUDE	40° 36.583'
UTM NORTHING	4495742	LONGITUDE	44° 11.993'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Sahakaberd Burial Cluster 8 was recorded 0.26 km west (bearing 263°) of Sahakaberd Burial Cluster 7, in the same alluvial fan that hosts Sahakaberd Burial Cluster 6 (map quadrant B3h).

TOPOGRAPHY

This cluster of cromlechs is concentrated on uneven terrain east of a concrete irrigation ditch and bounded on the west by an active watercourse.

GENERAL DESCRIPTION

One of the largest concentrations of cromlechs in the eastern Sahakaberd survey quadrant, Sahakaberd Burial Cluster 8 centers on a single densely packed ribbon of paved cromlechs 45 m long \times 5–10 m wide. Many are highly submerged making a true count difficult, but a conservative estimate would suggest twenty-five–thirty cromlechs. Beyond the ribbon are thirty to thirty-five additional, more discrete, standard, spiral, and paved cromlechs. All the burials are constructed of medium and large, shaped basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

On the northern edge of this cluster is a small group of three constructions that appear to be possible kurgans. The kurgans, 6.5–8.0 m in diameter, are located quite close to the adjacent irrigation ditch in an area littered with numerous basalt and tuff cobbles. As a result, it is more likely that these constructions represent modern field piles rather than burials.

SAHAKABERD QUADRANT (*cont.*)*BURIAL CLUSTER 9*

PLACE NUMBER	Ar/Sk.323.09	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,360
UTM EASTING	431943	LATITUDE	40° 36.651'
UTM NORTHING	4495870	LONGITUDE	44° 11.730'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Sahakaberd Burial Cluster 9 lies 0.96 km southeast (bearing 129°) of Sahakaberd Fortress, on the eastern slope of the same rise that also hosts Sahakaberd Burial Cluster 4 (map quadrant B4h).

TOPOGRAPHY

Like its neighbor, Sahakaberd Burial Cluster 4, this cluster lies on a gentle slope of a low rise. The east-facing slope that hosts Sahakaberd Burial Cluster 9 overlooks a cultivated field and, farther east, a small watercourse.

GENERAL DESCRIPTION

A long, densely packed ribbon of cromlechs lies at the center of this cluster. 25.0 m long × 2.5 m wide, this line of burials includes at least eighteen paved cromlechs. All the burials are 2.0–2.5 m in diameter and are composed of medium, shaped basalt blocks. The surrounding area also hosts at least fifteen discrete cromlechs, most small paved or standard, ranging between 2.5 and 3.5 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 10

PLACE NUMBER	Ar/Sk.324.02	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,267
UTM EASTING	431360	LATITUDE	40° 36.943'
UTM NORTHING	4496416	LONGITUDE	44° 11.312'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Sahakaberd Burial Cluster 10 was discovered 0.18 km east (bearing 110°) of Sahakaberd Fortress, 0.36 km west of a military road. Sahakaberd Burial Cluster 11 lies on the opposite bank of a small drainage, on the eastern flank of Sahakaberd, and it is quite possible that this cluster was once part of the same mortuary complex (map quadrant B3l).

TOPOGRAPHY

It is remarkable that the burials of Sahakaberd Burial Cluster 10 lie undisturbed as they rest on a gentle northwest-facing slope, between the main military road and Sahakaberd Fortress (which itself bears numerous scars of abuse by military forces). And yet this cluster appears to be in relatively good condition, set on the eastern bank of a steady flowing creek, and partially submerged.

GENERAL DESCRIPTION

This cluster consists of a single ribbon of densely packed cromlechs, 56.0 m long × 2.5–3.5 m wide. The burials are exclusively paved cromlechs set single file and overlapping such that it is difficult to assess the diameter of any individual burial. The ribbon does not extend in a straight line, but rather meanders roughly south–north.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 11

PLACE NUMBER	Ar/Sk.325.01	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,276
UTM EASTING	431236	LATITUDE	40° 36.930'
UTM NORTHING	4496393	LONGITUDE	44° 11.225'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Sahakaberd Burial Cluster 11, the nearest to Sahakaberd Fortress, lies between the southeastern corner of the fortress and the small drainage that divides it from Sahakaberd Burial Cluster 10 (map quadrant B3k).

TOPOGRAPHY

This cluster of burials is set on an east-facing slope, above a watercourse and below the walls of Sahakaberd Fortress. The area is strewn with rubble debris and other evidence of disturbance related to an artillery range, including exploded ordinance and modern trash. Despite this, many of the burials appear to be intact.

GENERAL DESCRIPTION

The cromlechs of Sahakaberd Burial Cluster 11 occupy an area approximately 45 m north–south × 20 m east–west. The extant cromlechs are not particularly numerous — fifteen standard cromlechs were noted — however, this may be the result of modern disturbance. In addition, fourteen paved cromlechs were recorded, five of which were arranged single file in a line oriented north–south (see feature 1). All the cromlechs are rather small, ranging from 2 to 3 m in diameter, and constructed of small to medium, unworked basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a line of five paved cromlechs oriented north–south. Unlike the tightly packed ribbons of cromlechs described in nearby burial clusters (such as Sahakaberd Burial Cluster 9), each construction is discrete, with an average of 5 m between individual burials. The visibility of the tombs is uneven; however, it does seem that the burials are all built of small to medium, unworked basalt blocks defining an outer circle between 1.8 and 2.3 m in diameter. The interior is composed of basalt blocks tightly fit into a central paving.

BURIAL CLUSTER 12

PLACE NUMBER	Ar/Sk.325.02	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,266
UTM EASTING	430797	LATITUDE	40° 36.958'
UTM NORTHING	4496439	LONGITUDE	44° 10.910'
PERIODIZATION	Late Bronze/Iron I, Medieval(?)		

ASSOCIATION

Sahakaberd Burial Cluster 12 is located just 0.4 km west (bearing 265°) of Sahakaberd Fortress (map quadrant B3k).

SAHAKABERD QUADRANT (*cont.*)

TOPOGRAPHY

This small cluster sits on a gentle northwest-facing slope, just above the final terminus of Mount Aragats as it meets the Tsaghkahovit Plain. There is some evidence of disturbance in the area.

GENERAL DESCRIPTION

Seven standard and four paved cromlechs are broadly distributed within this cluster, an area 60 m north–south × 40 m east–west. The burials are quite discrete and hold together as a cluster more due to their shared position on the hill slope than any sense of close spatial ordering. The burials range in diameter from 3 to 5 m and are built of medium, unworked blocks. The central capstones for the standard-style cromlechs are somewhat larger but are also unworked.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is an unusual paved cromlech, elliptical in shape rather than circular. It is 5 m in diameter along its long axis and 3 m along its short axis. It is built of medium basalt blocks, largely unworked but some with evidence of minor shaping to fit into the paved center of the construction. The irregular geometry of the burial may well be a result of disturbance caused by its proximity to an artillery range and military base. But it is also possible that this represents a different style of construction, one more akin to later burial traditions of the medieval era than to the Late Bronze/Iron Age I. If so, some elements of this cluster of burials may well be related to Sahakaberd Settlement 1.

BURIAL CLUSTER 13

PLACE NUMBER	Ar/Sk.324.08	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,331
UTM EASTING	430271	LATITUDE	40° 37.016'
UTM NORTHING	4496561	LONGITUDE	44° 10.539'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster is located 0.93 km west (bearing 275°) of Sahakaberd Fortress and just 0.75 km southeast of Gekhadzor village's southern limit (map quadrant B3j).

TOPOGRAPHY

The burials of this extensive cluster spread across two low rises and the intervening depression near the intersection of Mount Aragats and the flatland of the Tsaghkahovit Plain. A cleared area or pathway appears to bisect the cluster at the bottom of the depression, but this is undoubtedly the result of modern activity in the area. Overall, the area does not appear to have been unduly disturbed, particularly the ridgetops, despite some evidence for cultivation at some time in the past. It is possible that the nearby presence of a modern artillery range may have saved the area from more extensive “amelioration” (see *Chapter 7*).

GENERAL DESCRIPTION

Sahakaberd Burial Cluster 13 is a sprawling, densely packed cluster of mounded, standard, and paved cromlechs. At its maximum extent, burials were recorded in an area 400 m north–south × 190 m east–west. Within this area, numerous burials appear to be highly submerged, making an accurate count quite difficult. However, a conservative estimate would suggest between 125 and 150 individual burials. The cluster includes at least one large ribbon-style agglomeration of paved cromlechs, 2–3 m in diameter and packed tightly into an irregular line which meanders for approximately 45 m. Overall, the more discrete burials in the northern section of the cluster range from 1.5 to 5.0 m in diameter, with only a few exceptional constructions reaching diameters of 7–9 m (see feature 1). The burials

are generally built of medium to large, unworked or shaped basalt blocks. Tuff is occasionally seen, but largely as a cobble rather than a construction block. In the south, the burials appear to get larger and mounded cromlechs with cyclopean central capstones predominate (see feature 2). Near the southern limit of the cluster is a stone wall which extends 140 m north–south (see feature 3) and includes Sahakaberd Stela 1.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a large mounded cromlech on the northern edge of the cluster. It is 8 m in diameter, circumscribed by a single ring of medium, shaped basalt blocks that encircle a mound of small tuff and basalt cobbles. The mound rises only 30 cm above the ground surface. The lack of displaced cobbles visible in the area suggests that this construction was indeed a mounded cromlech rather than a disturbed kurgan.

Feature 2 is also a mounded cromlech, but differently constructed. This feature, and its numerous peers in the southern precincts of Sahakaberd Burial Cluster 13, consists of a single circumferential ring, 6.5 m in diameter, built of medium to large, shaped basalt blocks surrounding an interior of packed basalt and tuff cobbles. This cobble mound rises 20 cm above the surrounding ground surface. At the center of the cromlech a large, unworked basalt boulder, 2 m long \times 2 m wide \times 1 m in exposed height, rises out of the surface.

Feature 3 is a 140 m long architectural feature oriented north–south recorded in the southern precincts of the cluster. It appears from the surface to be a wall constructed in a well-carpentered line. However, it is built of small cobbles rather than stone blocks, giving it a rather amorphous appearance. Its association with the adjacent burials is unclear. Sahakaberd Stela 1 was found erected in a socket dug into the cobbles on the northern end of the wall.

BURIAL CLUSTER 14

PLACE NUMBER	Ar/Sk.327.02	ILLUSTRATION	Pls. 15, 75c
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,382
UTM EASTING	431037	LATITUDE	40° 36.844'
UTM NORTHING	4496235	LONGITUDE	44° 11.085'
PERIODIZATION	Iron III(?)		

ASSOCIATION

Sahakaberd Burial Cluster 14 lies 0.29 km southwest (bearing 213°) of Sahakaberd Fortress (map quadrant B3g).

TOPOGRAPHY

This cluster was constructed on a northeast-facing slope of a conical outcrop overlooking the western bank of the creek that runs along the eastern flank of Sahakaberd Fortress. The area appears to have been highly disturbed by the erection of military training facilities on the summit of the hill.

GENERAL DESCRIPTION

Sahakaberd Burial Cluster 14 is the only cluster of cist burials in the immediate hinterlands of Sahakaberd Fortress. And yet this identification must be provisional given the significant disturbance in the area. The visible constructions are tightly packed within an area approximately 40 \times 30 m and are often highly submerged leading to a surface visibility centered on traces of basalt and tuff cobbles. Occasionally, the cobbles appear to surround a slightly larger basalt block, which may represent a capstone.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 (pl. 75c) is one of the more discrete cists in the cluster. It is roughly circular and approximately 90 cm in diameter. It is constructed of small to medium basalt cobbles.

SAHAKABERD QUADRANT (*cont.*)*BURIAL CLUSTER 15*

PLACE NUMBER	Ar/Sk.329.03	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,318
UTM EASTING	430681	LATITUDE	40° 36.786'
UTM NORTHING	4496133	LONGITUDE	44° 10.832'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Sahakaberd Burial Cluster 15 is located 0.33 km southwest (bearing 201°) of Sahakaberd Burial Cluster 12 and may well be a far southern extension of that same cluster (map quadrant B3g).

TOPOGRAPHY

This small cluster is set on a gentle northwest-facing slope, above an area pockmarked with military-related installations.

GENERAL DESCRIPTION

The small number of broadly dispersed burials in this cluster include approximately eleven standard, paved, and mounded burials across an area roughly 45 m north–south × 30 m east–west. Several other possible burials, now submerged, were also noted. The burials are generally small to medium, ranging in diameter from 2 to 5 m. All are built of medium, unworked basalt blocks, except for the two mounded cromlechs recorded, which also employed tuff and basalt cobbles.

ASSOCIATED FEATURES AND MATERIALS

A single small piece of obsidian debris was found within this cluster.

BURIAL CLUSTER 16

PLACE NUMBER	Ar/Sk.329.04	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,293
UTM EASTING	430115	LATITUDE	40° 36.787'
UTM NORTHING	4496125	LONGITUDE	44° 10.462'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 0.87 km southeast (bearing 159°) of Gekhadzor village, Sahakaberd Burial Cluster 16 rests on the western slope of the same long ridgeline that hosts Sahakaberd Burial Cluster 13 to the north and Sahakaberd Burial Cluster 17 to the south (map quadrant B3f).

TOPOGRAPHY

The burials in this cluster were found on an east-facing slope overlooking a small valley with signs of recent cultivation and a meandering mountain stream that marks the western limit of the Sahakaberd survey quadrant.

GENERAL DESCRIPTION

The burials in this cluster extend across an area 340 m east–west × 60 m north–south. The burials include paved-, mounded-, bedrock-, and standard-style cromlechs, but because of their position on the slope of the hill, many likely burials are only minimally visible. The burials nearest the summit appear to be primarily bedrock and standard burials, ranging from 2 to 4 m in diameter and built primarily of small basalt blocks. Moving downslope, more paved-style cromlechs were noted along with several mounded-style cromlechs surmounted by cyclopean

capstones (such as that described for Sahakaberd Burial Cluster 13 feature 2). However, these lower elevation burials are also significantly impacted by local plowing activity.

ASSOCIATED FEATURES AND MATERIALS

Two obsidian flakes were found on the southwestern limits of the cluster. One was a large primary flake while the other was a smaller secondary flake with evidence of retouch on one edge.

BURIAL CLUSTER 17

PLACE NUMBER	Ar/Sk.336.01	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,366
UTM EASTING	430066	LATITUDE	40° 36.598'
UTM NORTHING	4495785	LONGITUDE	44° 10.397'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Sahakaberd Burial Cluster 17 was found 0.34 km south (bearing 198°) of Sahakaberd Burial Cluster 16 (map quadrant B3f).

TOPOGRAPHY

This large cluster of burials spreads across the summit, eastern and western slopes of the same ridge that also hosts Sahakaberd Burial Cluster 16. The summit is somewhat denuded, with outbursts of eroding bedrock, while the slopes provide rather steep grass-covered terrain.

GENERAL DESCRIPTION

Sahakaberd Burial Cluster 17, like Sahakaberd Burial Cluster 16 to the north, is a very large cluster of cromlechs extending across an area approximately 250 m north–south × 170 m east–west. It is quite possible that Sahakaberd Burial Clusters 16 and 17 are a single cluster. However, a brief hiatus in burial construction for 200–250 m between them suggests they are better categorized as separate clusters. That said, the burials within the cluster and their distribution are quite similar to those in Sahakaberd Burial Cluster 16. The burials include paved-, mounded-, bedrock-, and standard-style cromlechs. Those on the slopes of the hill are highly submerged, making a true census impossible. However, a conservative estimate would suggest no less than 110–130 burials within the cluster. Atop the summit, paved-style cromlechs predominate along with several mounded cromlechs surmounted by cyclopean capstones (such as that described for Sahakaberd Burial Cluster 13, feature 2). The burials on the slope appear to be primarily standard cromlech burials, ranging from 3.0 to 4.5 m in diameter and built out of medium basalt blocks. Like Sahakaberd Burial Cluster 16, the burials closer to the watercourse at the base of the slope are more disturbed. While the upper reaches of the eastern slope appear rather bare, the burials begin again in earnest at mid-slope where a tightly packed “ribbon” of paved cromlechs extends down to the cultivated valley floor below (feature 1). At the base of the hill, a series of more discrete paved cromlechs were recorded.

ASSOCIATED FEATURES AND MATERIALS

A single obsidian flake and two sherds, definable as Group C (Iron III–Medieval), were found along a modern vehicle path that cuts across the field below the eastern slope, in the vicinity of the easternmost cromlechs of the cluster. However, the association of these materials with the burials is quite tenuous.

Feature 1 is a densely packed ribbon of paved cromlechs that extends from the middle of the eastern slope of the ridge down to the valley floor — a distance of approximately 60 m. The paved burials are highly submerged in some places, but the overall elements of the feature remain visible. The individual burials appear to be between 2.5 and 4.0 m in diameter and constructed of small to medium basalt blocks.

SAHAKABERD QUADRANT (*cont.*)*BURIAL CLUSTER 18*

PLACE NUMBER	Ar/Sk.336.06	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,388
UTM EASTING	430858	LATITUDE	40° 36.576'
UTM NORTHING	4495742	LONGITUDE	44° 10.961'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This somewhat isolated cluster of cromlechs was recorded 0.32 km south (bearing 183°) of Sahakaberd Settlement 2 (map quadrant B3g).

TOPOGRAPHY

The terrain surrounding this cluster rises gently up to the east before descending a sharp slope to a swiftly flowing watercourse — the same drainage that flows along the eastern flank of Sahakaberd Fortress.

GENERAL DESCRIPTION

This triangular cluster hosts thirteen discrete but closely packed cromlechs. Most appear to be standard cromlechs, but a few paved examples also were noted (although this paved appearance may be the result of the submergence of several burials below the ground surface). All the cromlechs range from 2.5 to 5.0 m in diameter and all are built of medium, unworked or lightly shaped basalt blocks. A long “ribbon” of paved cromlechs was documented on the southern end of the cluster (see feature 1).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a densely packed line, or “ribbon,” of paved cromlechs. The line is visible for 38 m in a meandering north–south direction before colluvial deposits appear to have submerged a substantial number of burials. The burials range from 2.5 to 4.0 m in diameter and are built of medium, shaped basalt blocks.

BURIAL CLUSTER 19

PLACE NUMBER	Ar/Sk.340.02	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,400
UTM EASTING	431242	LATITUDE	40° 36.417'
UTM NORTHING	4495443	LONGITUDE	44° 11.235'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This large burial cluster was discovered 1.03 km south (bearing 177°) of Sahakaberd Fortress (map quadrant B3g).

TOPOGRAPHY

The burials of Sahakaberd Burial Cluster 19 spread across the summit and eastern slope of a north–south-oriented ridge. The summit is wide and flat with occasional eruptions of exposed bedrock. The slope is gentle and well covered with soil deposits that have submerged some of the burials.

GENERAL DESCRIPTION

Sahakaberd Burial Cluster 19 extends along the ridge approximately 250 m north–south and 85 m east–west. Its large population and elongated shape is typical of many Sahakaberd quadrant burial clusters, such as

Sahakaberd Burial Clusters 16 and 17. A wide variety of cromlech styles was recorded in the cluster, including standard, mounded, and paved. On the slope, site formation process have submerged a number of burials, giving the superficial impression of widely spaced standard and paved cromlechs. The visible standard cromlechs average 3 m in diameter and are built of medium, unworked basalt blocks encircling one to three elongated basalt capstones. The paved cromlechs on the slope are more elliptical in shape, with diameters ranging between 2.5 and 3.5 m. Atop the ridge, the burials appear to be more densely packed (although this may be an effect of differential colluviation/erosion from ridge to slope). Several mounded cromlechs, some surmounted by a single cyclopean capstone, were recorded in addition to standard and paved burials.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a mounded burial, 6.3 m in diameter, constructed of small basalt and tuff cobbles. The encircling cromlech is visible only on the western edge where two worked basalt blocks appear to define one arc of the outer ring. One of these blocks, interestingly, appears to have been placed on end, giving it the conspicuous appearance of a headstone.

BURIAL CLUSTER 20

PLACE NUMBER	Ar/Sk.339.01	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,357
UTM EASTING	431625	LATITUDE	40° 36.442'
UTM NORTHING	4495487	LONGITUDE	44° 11.506'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This small cluster lies 1.08 km southeast (bearing 157°) of Sahakaberd Fortress within the area of a modern artillery range (map quadrant B3h).

TOPOGRAPHY

Sahakaberd Burial Cluster 20 occupies the southern flank of a small elliptical hill outlined by vehicle paths along the east, and especially west, flanks. These are likely tracks for military vehicles and it is perhaps only due to the burials' isolation that they do not show inordinate signs of disturbance.

GENERAL DESCRIPTION

The cromlechs along this slope are highly submerged, often with only two or three visible blocks suggestive of underlying mortuary features. At least six cromlechs were visible for 65 percent or more of the outer ring, while numerous others were undoubtedly elements of cromlechs but incompletely exposed. The visible burials were all standard cromlechs, 3.0–4.5 m in diameter, with rings of shaped basalt blocks surrounding two or three elongated capstones of unworked basalt.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

SAHAKABERD QUADRANT (*cont.*)*BURIAL CLUSTER 21*

PLACE NUMBER	Ar/Sk.339.06	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,426
UTM EASTING	430709	LATITUDE	40° 36.457'
UTM NORTHING	4495522	LONGITUDE	44° 10.857'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Just 0.27 km southwest (bearing 214°) of Sahakaberd Burial Cluster 18, this cluster of burials begins above the line defined by Sahakaberd Canal 1 (map quadrant B3g).

TOPOGRAPHY

The burials of Sahakaberd Burial Cluster 21 are set on the upper flanks and summit of a north–south-oriented ridge. Several large boulders heaped on one edge of the summit suggest some localized disturbance.

GENERAL DESCRIPTION

The burials of this cluster are largely bedrock, stepped, and standard cromlechs, a large number of which are surmounted by a single massive cyclopean capstone. The burial extends across an area approximately 80 m north–south × 55 m east–west. While the burials are relatively discrete, erosion on the ridgetop and colluviation on the slope make an accurate count of the burials difficult. However, thirty-six were clearly visible. The burials are generally constructed of medium to large, unworked and shaped basalt blocks. The cyclopean capstones employed by some of the burials are very large basalt boulders, several of which extend as much as 1 m above the existing ground surface.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 22

PLACE NUMBER	Ar/Sk.343.06	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,514
UTM EASTING	430090	LATITUDE	40° 36.342'
UTM NORTHING	4495328	LONGITUDE	44° 10.414'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Sahakaberd Burial Cluster 22 was discovered 0.46 km south (bearing 183°) of Sahakaberd Burial Cluster 17, along the same north–south ridgeline (map quadrant B3f).

TOPOGRAPHY

As noted, Sahakaberd Burial Cluster 22 lies atop the same linear ridgeline that also hosts Sahakaberd Burial Clusters 16 and 17. The ridge shows signs of considerable erosion on the summit and this is particularly the case in the area of Sahakaberd Burial Cluster 22, where burials appear to be tucked in between erupting formations of natural bedrock. Given the sprawling extent of these clusters and their shared topographic situation, they may well represent a single very large cluster. However, small differences in the burials themselves, as well as intervening empty areas between them, suggest that they are likely distinct places.

GENERAL DESCRIPTION

Sahakaberd Burial Cluster 22 spreads across a large area 350 m north–south \times 75 m east–west. Despite the local conditions that make counting the burials difficult, it is estimated that there are no less than 130 burials within the cluster. Most are bedrock, standard, stepped, spiral (feature 2), or paved clusters, sometimes packed into dense lines or “ribbons.” However, several kurgans were also noted in the cluster, including a line of three that were looted (feature 1). The majority of the burials range between 3 and 6 m in diameter and are built of medium, shaped basalt blocks. Only a handful boast the kind of cyclopean basalt capstones seen in other clusters within the western Sahakaberd survey quadrant. A small subcluster of burials on the southern edge of Sahakaberd Burial Cluster 22; the burials are particularly small, ranging from 1.0 to 1.7 m in diameter. The burials have small, worked basalt blocks set in a ring around medium, shaped basalt capstones.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a line of three kurgans aligned north–south and a total of 23 m long \times 6 m wide. All three burials show signs of having been looted, most likely within the last one to five years, as the overgrowth was composed of primary weeds. The cobbles of tuff and basalt that once sealed the burials now lie strewn across the area. Only in the southernmost of the constructions is an interior chamber now exposed. This chamber was lined with basalt slabs on three sides, defining a chamber approximately 1.20 \times 0.95 m. Despite the apparent looting, no materials were found, suggesting either the tombs were empty or the complete contents were removed intact.

Feature 2 is one of only a handful of clear spiral cromlechs recorded in the Sahakaberd survey quadrant. It is 5 m in diameter with a spiraling outer ring that begins on the northwest edge and terminates at a central, large, shaped capstone at the center. The building stones are medium, shaped and unworked basalt blocks.

BURIAL CLUSTER 23

PLACE NUMBER	Ar/Sk.343.07	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,468
UTM EASTING	429752	LATITUDE	40° 36.336'
UTM NORTHING	4495306	LONGITUDE	44° 10.198'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

At 1.9 km southwest (bearing 231°) of Sahakaberd Fortress, Sahakaberd Burial Cluster 23 is the westernmost cluster in the Sahakaberd survey quadrant (map quadrant B3f).

TOPOGRAPHY

This small group of cromlechs lies on a bluff just above the watercourse that marks the western limit of the Sahakaberd survey quadrant. It is remarkable that they survive, given the evidence for considerable transit along this valley.

GENERAL DESCRIPTION

Only eight cromlechs compose this small cluster: three mounded, one paved, and four standard. All are quite small, 1–3 m in diameter, and built of small basalt blocks or basalt and tuff cobbles. The mounded cromlechs rise a maximum of 40 cm above the surrounding ground surface.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

SAHAKABERD QUADRANT (*cont.*)*BURIAL CLUSTER 24*

PLACE NUMBER	Ar/Sk.349.04	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,460
UTM EASTING	430698	LATITUDE	40° 36.205'
UTM NORTHING	4495056	LONGITUDE	44° 10.862'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Sahakaberd Burial Cluster 24 is a sprawling cluster 1.50 km south (bearing 199°) of Sahakaberd Fortress (map quadrant B3c).

TOPOGRAPHY

This cluster of cromlechs is set atop a long north–south-oriented ridge. The summit of the ridge, where the densest concentration of burials was recorded, is highly eroded in places with large exposures of bedrock as well as giant basalt boulders. There is little evidence of disturbance in the area.

GENERAL DESCRIPTION

This cluster extends 325 m north–south × 45 m east–west along an elongated ridgetop. The burials are discrete, but the exposed bedrock also makes them difficult to distinguish at times. A conservative estimate suggests no less than ninety burials within the cluster. These burials include standard-, paved-, and bedrock-style constructions. Several of the standard-style cromlechs are surmounted by cyclopean basalt capstones.

ASSOCIATED FEATURES AND MATERIALS

A single undiagnostic sherd was found on the eastern edge of the cluster.

Feature 1 is a normal paved cromlech, 2.3 m in diameter, which shows conspicuous signs of extensive working. It is constructed of medium to large, worked basalt blocks. The blocks in the outer circle have had their interiors well faced while the edges and tops of the paving stones in the center also show signs of considerable work.

BURIAL CLUSTER 25

PLACE NUMBER	Ar/Sk.345.02	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,423
UTM EASTING	430333	LATITUDE	40° 36.249'
UTM NORTHING	4495141	LONGITUDE	44° 10.593'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Just 0.31 km to the southeast (bearing 128°) of Sahakaberd Burial Cluster 22, this cluster lies on an adjacent north–south-oriented ridgeline to the east (map quadrant B3b).

TOPOGRAPHY

This cluster spreads across the terminal northern slope and ridgetop of an elongated ridge similar to the terrain that hosts Sahakaberd Burial Clusters 16, 17, and 22. The area is littered with basalt boulders.

GENERAL DESCRIPTION

This relatively compact cluster, 200 × 60 m, hosts forty to sixty standard cromlechs that appear to be roughly arranged into two lines that run along the west and east ridge crests. In between is a gap of 15 m. The burials range from 1.9 to 4.0 m in diameter and are built of medium, unworked and lightly shaped basalt blocks. The capstones

are generally elongated basalt boulders. The southern end of the cluster is marked by a tuff and basalt block wall. It is 90 cm wide and faced on both sides. It extends 38 m in a generally east–west orientation.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 26

PLACE NUMBER	Ar/Sk.349.07	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,381
UTM EASTING	431145	LATITUDE	40° 36.137'
UTM NORTHING	4494926	LONGITUDE	44° 11.170'
PERIODIZATION	Early Bronze, Late Bronze/Iron I		

ASSOCIATION

Sahakaberd Burial Cluster 26 was found 0.47 km east (bearing 106°) of Sahakaberd Burial Cluster 24 (map quadrant B3c).

TOPOGRAPHY

Like most of the clusters in the Sahakaberd quadrant, Sahakaberd Burial Cluster 26 is set atop an extended, north–south-oriented ridgeline, although ten to fifteen burials were also recorded on the upper western slope. The area is strewn with basalt boulders and areas of eroding natural rock. The only evidence of disturbance in the area is from the southern edge of the cluster, where a rectangular 23 × 22 m structure lies abandoned with a pile of unused, machine-cut tuff blocks in the center.

GENERAL DESCRIPTION

The cromlechs in this cluster extend across an area 250 m north–south × 45 m east–west. They are generally discrete, although the intervening natural rock and boulders make counting them a challenge. But a fair estimate indicates the cluster is likely composed of fifty to sixty individual burials, mostly standard and paved styles. On the far east side, on the edge of the ridge, is a short “ribbon” of three tightly packed paved cromlechs set edge to edge (feature 1). Other, longer ribbons are also visible, but the dense packing also makes it more difficult to tease out distinct mortuary architecture.

ASSOCIATED FEATURES AND MATERIALS

One piece of Early Bronze Age pottery was recovered from the surface. But no discernibly Early Bronze features were noted in the surrounding architecture.

Feature 1 is a group of three paved cromlechs built edge to edge in a single-file line oriented roughly north–south. Intriguingly, the burials appear to be ordered south to north from the smallest to the largest. The southernmost burial is 1.10 m in diameter, the middle burial is 1.40 m, and the northernmost is 1.95 m in diameter. All are built of medium, unworked basalt blocks.

SAHAKABERD QUADRANT (*cont.*)*BURIAL CLUSTER 27*

PLACE NUMBER	Ar/Sk.346.03	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,422
UTM EASTING	431437	LATITUDE	40° 36.306'
UTM NORTHING	4495134	LONGITUDE	44° 11.411'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Sahakaberd Burial Cluster 27 is a rather isolated set of cromlechs, 0.40 km southwest (bearing 208°) of Sahakaberd Burial Cluster 20 and 0.37 km northeast (bearing 55°) of Sahakaberd Burial Cluster 26 (map quadrant B3d).

TOPOGRAPHY

Unlike most of the clusters in this quadrant, Sahakaberd Burial Cluster 27 was found within a wide basin surrounded by low hills on all sides except the north. No evidence of disturbance was recorded in the cluster.

GENERAL DESCRIPTION

This cluster of no more than twenty-five standard cromlechs appears to have been organized around a series of dense subclusters. While the subclusters are generally discrete, with gaps of 5–10 m, the burials within each cluster are tightly packed on top of one another. This makes it impossible to describe the burials according to construction style. The tombs are quite large, ranging from 6 to 10 m in diameter, and all are constructed of medium to large, shaped or unworked basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 28

PLACE NUMBER	Ar/Sk.354.06	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,591
UTM EASTING	430287	LATITUDE	40° 36.049'
UTM NORTHING	4494772	LONGITUDE	44° 10.560'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Sahakaberd Burial Cluster 28 was found along the same ridgetop as Sahakaberd Burial Cluster 25, 0.37 km to the south (bearing 173°). Like Sahakaberd Burial Clusters 29 and 30, this cluster marks the southern limit of burial construction in the Sahakaberd survey quadrant and represents the highest-elevation cluster documented by the ArAGATS survey (map quadrant B3b).

TOPOGRAPHY

Like most of the clusters in the Sahakaberd quadrant, Sahakaberd Burial Cluster 28 lies on an elongated ridgetop cluttered with basalt boulders and eroded patches of natural rock.

GENERAL DESCRIPTION

An elongated cluster, 350 m north–south × 60 m east–west, Sahakaberd Burial Cluster 28 is estimated to host between ninety and one-hundred cromlechs of varying types, including standard, paved, and bedrock. The burials all appear to be constructed of medium, unworked or lightly shaped basalt blocks although several burials also boast

cyclopean basalt capstones. A densely packed “ribbon” of paved-style cromlechs was recorded near the northern end of the cluster (feature 1). But most burials in the cluster appear to be discrete individual cromlechs.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a densely packed line, or “ribbon,” of paved cromlechs that meanders 42 m in a north–south direction. Many of the burials are partially submerged, making a count difficult, but they appear to average 2.5–3.0 m in diameter.

BURIAL CLUSTER 29

PLACE NUMBER	Ar/Sk.352.02	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,503
UTM EASTING	430992	LATITUDE	40° 36.058′
UTM NORTHING	4494795	LONGITUDE	44° 11.070′
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 1.70 km south (bearing 173°) of Sahakaberd Fortress, Sahakaberd Burial Cluster 29 is one of the southernmost clusters of the entire Aragats slope (map quadrant B3c).

TOPOGRAPHY

These burials were built on a wide plateau atop a north–south-oriented ridgeline. The east slope of the ridge overlooks a major watercourse draining the northern slope of Mount Aragats.

GENERAL DESCRIPTION

The cluster is quite small compared to neighbors farther north — no more than thirty-five burials were recorded. All are small standard cromlechs, 2–4 m in diameter, built of unworked, medium basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 30

PLACE NUMBER	Ar/Sk.353.01	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,520
UTM EASTING	431525	LATITUDE	40° 36.012′
UTM NORTHING	4494692	LONGITUDE	44° 11.441′
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

The southernmost of the Sahakaberd survey quadrant burial clusters, Sahakaberd Burial Cluster 30 was recorded 1.81 km southeast (bearing 170°) of Sahakaberd Fortress (map quadrant B3d).

TOPOGRAPHY

The cromlechs of this burial cluster were found on the north-facing terminal slope of an elongated north–south-oriented ridgeline. The area is pockmarked with eroding bedrock, but there is no evidence of significant disturbance.

SAHAKABERD QUADRANT (*cont.*)

GENERAL DESCRIPTION

The burials are generally discrete in the this cluster, but are often submerged, making a true count difficult. Unlike larger clusters to the immediate north, this one seems to have hosted no more than thirty-five burials. The only architectural styles noted here were paved and standard cromlechs. Both were made of medium, unworked and shaped basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

TSAGHKAHOVIT QUADRANT

BURIAL CLUSTER 1

PLACE NUMBER	Ar/Ts.001.01	ILLUSTRATION	Fig. 40; Pls. 16, 79c
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,137
UTM EASTING	434894	LATITUDE	40° 37.893'
UTM NORTHING	4498142	LONGITUDE	44° 13.808'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Walking south from the benchmark atop Tsaghkahovit Fortress, Tsaghkahovit Burial Cluster 1 is the first group of cromlechs encountered, just beyond the west settlement, below the defunct windmill (map quadrant B4o).

TOPOGRAPHY

These cromlechs are set on the slopes of a broad swale between two bedrock ridges. The lower reaches of the area have been highly disturbed by the windmill construction.

GENERAL DESCRIPTION

Although the area is punctuated by bedrock outcrops, this cluster hosts approximately thirty-five standard and spiral cromlechs within an area roughly 50 × 90 m. The cromlechs reach well upslope, though they are packed more densely at lower elevations. Several burials appear to have been looted quite recently.

ASSOCIATED FEATURES AND MATERIALS

Feature 1 (pl. 79c) is a recently looted standard cromlech. Scattered around the burial is a light concentration of ceramic sherds attributable to Group D — the Late Bronze Age (fig. 40).

Feature 2 is adjacent to feature 1. It is a small, circular basin, 5.0 m in diameter, cut into the bedrock. The basin is 1.7 m in diameter × 2.2 m deep.

Feature 3 is another looted cromlech, although part of one capstone is still in place and the construction appears to have been reused as a shelter.

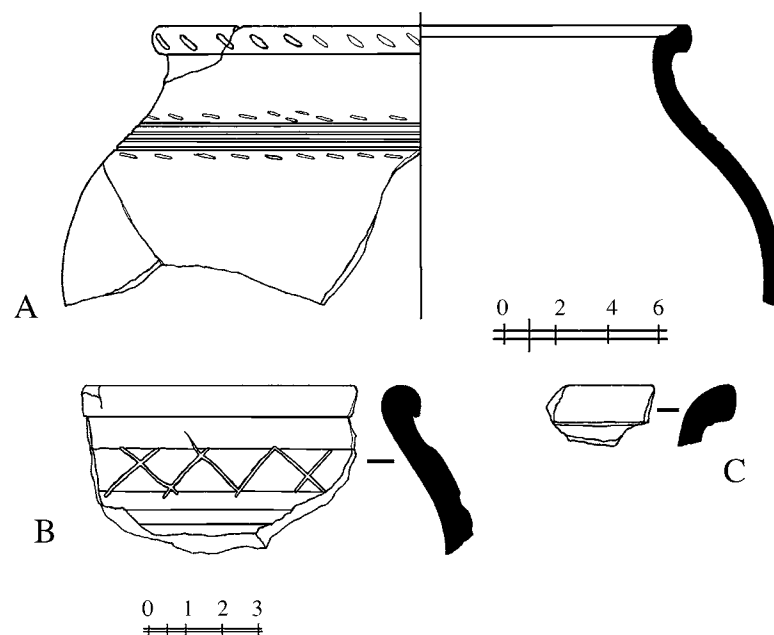


Figure 40. Surface Materials from Tsaghkahovit Burial Clusters 1 and 2

	<i>a</i>	<i>b</i>	<i>c</i>
<i>Locus</i>	Burial Cluster 2	Burial Cluster 1	Burial Cluster 2
<i>Sherd No.</i>	1	1	2
<i>Period</i>	Late Bronze III–Iron Ia	Late Bronze I	A*
<i>Fragment</i>	Rim–Body	Rim	Rim
<i>Form</i>	Closed Jar	Bowl	Jar
<i>Rim Variant</i>	Band	Ledge	Band
<i>Exterior Color</i>	Orange	Brown	Gray
<i>Interior Color</i>	Buff	Gray	Brown
<i>Fabric Color</i>	Gray	Orange	Brown
<i>Inclusions</i>	Coarse	Medium–Coarse	Coarse
<i>Slip</i>	Yes	Yes	Yes
<i>Surface Treatment</i>	Smoothed	Polished	Smoothed
<i>Rim Diameter / Percent</i>	22.0 cm / 16%	26.0 cm / 10%	N/A

* Group A = Iron IIIa–Medieval; see table 1.

TSAGHKAHOVIT QUADRANT (*cont.*)*BURIAL CLUSTER 2*

PLACE NUMBER	Ar/Ts.001.03	ILLUSTRATION	Fig. 40; Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,232
UTM EASTING	434865	LATITUDE	40° 37.805'
UTM NORTHING	4497986	LONGITUDE	44° 13.792'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 2 is located 1.46 km southwest (bearing 193°) of Tsaghkahovit Fortress (map quadrant B4o).

TOPOGRAPHY

The burials lie in a shallow, horseshoe-shaped basin enclosed to the north, west, and east by low hills.

GENERAL DESCRIPTION

This densely packed cluster includes at least ten standard and bedrock cromlechs in an area 80 × 40 m. The cromlechs are primarily built of basalt blocks surrounding large basalt capstones.

ASSOCIATED FEATURES AND MATERIALS

Two ceramic sherds were recovered (fig. 40).

BURIAL CLUSTER 3

PLACE NUMBER	Ar/Ts.005.01	ILLUSTRATION	Pl. 18
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,192
UTM EASTING	435061	LATITUDE	40° 38.004'
UTM NORTHING	4498350	LONGITUDE	44° 13.933'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This burial cluster is located 0.33 km south (bearing 170°) of Tsaghkahovit Fortress, just beyond the territory of the lower town (map quadrant B5c).

TOPOGRAPHY

The burials rest at the base and along the lower slopes of a tall northwest-facing slope.

GENERAL DESCRIPTION

This large cluster includes standard, paved, and stepped cromlechs. Over fifteen burials are immediately visible, all built of basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 4

PLACE NUMBER	Ar/Ts.008.01	ILLUSTRATION	Pls. 16, 78c
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,206
UTM EASTING	435132	LATITUDE	40° 37.750'
UTM NORTHING	4497895	LONGITUDE	44° 13.992'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 4 is located 0.78 km south (bearing 170°) of Tsaghkahovit Fortress, on a ridgetop just west of the basin that hosts Tsaghkahovit Burial Cluster 9 (map quadrant B4o).

TOPOGRAPHY

The long north–south-oriented ridge that hosts this cluster is punctuated by eroded bedrock. To the west it slopes sharply down toward the swale where Tsaghkahovit Burial Cluster 1 is located.

GENERAL DESCRIPTION

The standard cromlechs in this small cluster, approximately 50 × 20 m, are generally well spaced. Despite a collection of only ten to twenty burials, the cemetery has remarkable variation in burial forms, including mounded, standard, spiral, bedrock, and budding cromlechs. The west side of the burial cluster is marked by an irregular stone wall, only partially visible from the surface.

ASSOCIATED FEATURES AND MATERIALS

No surface materials were associated with the burials, but a handful of undiagnostic sherds were recovered from an eroded area on the bounding wall (feature 2).

Feature 1 is a moderately sized standard cromlech. The single outer ring of the construction describes a circle 6.5 m in diameter surrounding three basalt boulders level with the contemporary ground surface.

Feature 2 (pl. 78c) is a bedrock cromlech 1.7 m in diameter. The construction utilizes a very large, slightly curved bedrock outcropping to define the eastern edge of the outer ring. The remainder of the ring and interior capstones are made of small to medium, unworked basalt blocks.

Feature 3 is the stone wall defining the western edge of the cluster. The wall stretches north–south for 72 m, a greater distance than the extent of the cluster itself, suggesting they may be distinct constructions. It is built of a single line of unworked basalt blocks.

BURIAL CLUSTER 5

PLACE NUMBER	Ar/Ts.008.03	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,242
UTM EASTING	435158	LATITUDE	40° 37.881'
UTM NORTHING	4498110	LONGITUDE	44° 13.983'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 5 is just 0.5 km south (bearing 166°) of Tsaghkahovit Fortress, separated from Tsaghkahovit Burial Cluster 4 by a single, low north–south-running ridge (map quadrant B4o).

TOPOGRAPHY

The cluster is set on the southern flank of the same ridge as Tsaghkahovit Burial Cluster 4 as it turns slightly to the east. Just to the east, within the same small, flat basin, are the burials of Tsaghkahovit Burial Cluster 7.

TSAGHKAHOVIT QUADRANT (*cont.*)

GENERAL DESCRIPTION

The cromlechs in this burial cluster are densely packed. Most are standard cromlechs; however, dense packing makes it possible that some are linked budding cromlechs.

ASSOCIATED FEATURES AND MATERIALS

The only surface materials visible were Soviet-era tiles.

Feature 1 is a possible budding cromlech visible as two interlocked exterior stone rings. Overall, the construction is 12 m long (oriented to 18°) and 6 m wide (108°). The construction stones are of weathered basalt and are generally uniform in size (averaging ca. 70 square cm).

BURIAL CLUSTER 7

PLACE NUMBER	Ar/Ts.015.03	ILLUSTRATION	Pls. 16, 74d, 78a, 79b
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,146
UTM EASTING	435264	LATITUDE	40° 37.899'
UTM NORTHING	4498150	LONGITUDE	44° 14.071'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This extended cluster of burials (pl. 74d) surrounds an elevated basin, just 100 m east of Tsaghkahovit Burial Cluster 5, 0.61 km southeast (bearing 150°) of Tsaghkahovit Fortress (map quadrant B4o).

TOPOGRAPHY

This cluster of burials is set in an elevated basin surrounded by volcanic ridges. The visible burials encircle the basin near the base of the ridge slopes, but were not found closer to the center of the basin. This may be a result of formation processes. There is some evidence that the basin was tilled in the not too distant past.

GENERAL DESCRIPTION

Tsaghkahovit Burial Cluster 7 is a large and densely packed cromlech cluster. Forty-two standard cromlechs are clearly visible as are six mounded cromlechs and a possible kurgan; however, large bedrock outcrops and numerous loose cobbles make an exact count difficult. The best-preserved examples are situated in the southeast section of the cluster. The cromlechs extend over an area of 92 × 40 m. Several cromlechs have been visibly disturbed, as several capstones have been displaced, exposing the interior stone-lined chambers. Most of the cromlechs are small — only 4 to 6 m in diameter. But it is interesting to note that the size of the cromlechs slightly increases moving upslope. Similarly, more mounded cromlechs are visible on the upper limits of the cluster rather than the lower reaches. One tomb (feature 3) has been looted.

ASSOCIATED FEATURES AND MATERIALS

Despite the relatively recent disturbance of the burials, no surface materials were recovered.

Feature 1 is a small mounded cromlech 6.5 m in diameter. The burial is marked by a slight rise, no more than 30 cm above the level of the surrounding basin. The mound is constructed of small basalt and tuff cobbles while the encircling ring is built of larger basalt blocks.

Feature 2 (pl. 78a) is a large, somewhat sprawling standard cromlech. It appears to be approximately 10.2 m in diameter, but a number of stones appear to be out of place. It is constructed of medium and large, unworked basalt blocks. The outer ring encircles an interior space that shows evidence of two to four large capstones under the surface.

Feature 3 (pl. 79b) is a looted stepped cromlech. The outer ring is 7.6 m in diameter. One of two very large capstones has been removed exposing a stone-lined chamber. No materials were found on the surface, suggesting that any grave contents were removed intact.

BURIAL CLUSTER 8

PLACE NUMBER	Ar/Ts.017.04	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,187
UTM EASTING	435273	LATITUDE	40° 37.773'
UTM NORTHING	4497916	LONGITUDE	44° 14.079'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 0.86 km east of Tsaghkahovit village's eastern edge, Tsaghkahovit Burial Cluster 8 is set on a slope above Tsaghkahovit Burial Cluster 9 (map quadrant B4o).

TOPOGRAPHY

The burials rest on a steep slope dotted with eroded bedrock.

GENERAL DESCRIPTION

This cluster includes nine mounded cromlechs and five cist burials. The cists are roughly circular, 1.5–2.0 m in diameter, and constructed of basalt and tuff cobbles. The mounded cromlechs are small as well, ranging from 2 to 4 m in diameter. The area of the cluster measures 30 × 50 m.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 9

PLACE NUMBER	Ar/Ts.016.05	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,255
UTM EASTING	435296	LATITUDE	40° 37.716'
UTM NORTHING	4497810	LONGITUDE	44° 14.096'
PERIODIZATION	Middle Bronze or Late Bronze/Iron I		

ASSOCIATION

This cluster is found just 100 m south of Tsaghkahovit Burial Cluster 8, 0.97 km east of Tsaghkahovit village (map quadrant B4o).

TOPOGRAPHY

These burials are set on a gentle slope, at the edge of a small basin surrounded by denuded rock outcrops to the north, south, and east. To the west, the basin slopes down into the drainage that connects Tsaghkahovit Reservoirs 1 and 2 to the area of Tsaghkahovit village.

GENERAL DESCRIPTION

Tsaghkahovit Burial Cluster 9 consists of five broadly spaced kurgans. All consist of low mounds built along the gentle slope of the hill. The tallest mound rises approximately 1.4 m above the surrounding terrain. The kurgans vary in diameter from 4.0 to 6.5 m. The visible surfaces of the mounds are constructed of basalt and tuff cobbles. The diminished size of the kurgans suggests within traditional typologies that these kurgans potentially date to the early Late Bronze rather than the Middle Bronze Age.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

TSAGHKAHOVIT QUADRANT (*cont.*)

Feature 1 is a moderately sized kurgan, 5.2 m in diameter, that rises 1.1 m above the slope at its maximum height. The surface of the kurgan is covered by densely packed tuff and basalt cobbles with no visible encircling cromlech.

BURIAL CLUSTER 10

PLACE NUMBER	Ar/Ts.016.06	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,285
UTM EASTING	435154	LATITUDE	40° 37.466'
UTM NORTHING	4497350	LONGITUDE	44° 13.998'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 1.43 km east (bearing 98°) of the southern limit of Tsaghkahovit village and just 0.24 km northwest (bearing 318°) of Tsaghkahovit Reservoir 1 (map quadrant B4o).

TOPOGRAPHY

Like other burial clusters in the area south of Tsaghkahovit Fortress, Tsaghkahovit Burial Cluster 10 is set in a shallow basin surrounded by raised bedrock outcrops. The burials cluster toward the edges of the basin.

GENERAL DESCRIPTION

Tsaghkahovit Burial Cluster 10 is a moderately sized cluster, 35 m north–south × 55 m east–west, with approximately fifteen cromlechs and seven small kurgans. The cluster is bound by a U-shaped outcrop on all sides except the northeast, where a stone wall 40 m long divides the area of burials from the remainder of the basin. The kurgans predominate in the upslope portions of the cluster while the downslope area is dominated by standard cromlechs. The small size of the kurgans suggests they should be assigned to the Late Bronze Age. It is possible that the complementary shifts in spatial distribution and style reflect the extended use of the cluster over time as mortuary rituals shifted within a single community.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a small kurgan on the southern edge of the cluster. It is strangely elliptical, perhaps due to local taphonomic conditions, measuring 6 m along one axis and 4 m along the other. The mound is constructed of basalt and tuff cobbles. No encircling outer ring is visible.

Feature 2 is a small cromlech that is similarly elliptically shaped, measuring 3.1 m along the long east–west axis and just 2.2 m along the north–south axis. The outer ring is constructed of medium, shaped basalt blocks surrounding a single large, unworked basalt capstone.

BURIAL CLUSTER 11

PLACE NUMBER	Ar/Ts.024.01	ILLUSTRATION	Pls. 16, 74c
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,227
UTM EASTING	435663	LATITUDE	40° 37.850'
UTM NORTHING	4498064	LONGITUDE	44° 14.351'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This extensive cluster of cromlechs (pl. 74c) is located 0.89 km southeast (bearing 132°) of Tsaghkahovit Fortress, just to the west of Tsaghkahovit Burial Cluster 17 (map quadrant B4p).

TOPOGRAPHY

This cluster of burials extends laterally (east–west) along the base of a south-facing slope.

GENERAL DESCRIPTION

This cluster of approximately thirty standard, paved, and mounded cromlech burials measures 50 m north–south \times 100 m east–west. The mounded burials are constructed from basalt cobbles encircled by shaped basalt medium blocks. The cromlech burials are quite small, averaging 1.5 to 3.0 m in diameter. The area is highly eroded and also appears to have been adversely impacted by both rock fall from the ridge above and agricultural field clearance in the basin below. As a result, a census of the burials is quite difficult. In addition, several linear stone constructions are visible on the lower edges of the cluster. However, it is most likely that these are not constructions, but simply stone piles created by field clearance.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is one of the larger paved cromlechs in the cluster. It has a distended, elliptical shape — 6 m north–south \times 3 m east–west. The stones are primarily unworked basalt set into a close-paved facade. The central capstone is a large, unworked basalt block 2.00 m long \times 0.95 m wide.

BURIAL CLUSTER 12

PLACE NUMBER	Ar/Ts.012.02	ILLUSTRATION	Figs. 41–42; Pls. 18, 74b
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,178
UTM EASTING	435277	LATITUDE	40° 38.059′
UTM NORTHING	4498446	LONGITUDE	44° 14.079′
PERIODIZATION	Late Bronze		

ASSOCIATION

This large cluster of burials (pl. 74b) is located on the southeastern edge of the lower town at Tsaghkahovit, just 350 m southeast (bearing 129°) of the summit of Tsaghkahovit Fortress (map quadrant C4c/d).

TOPOGRAPHY

This large and extensive cluster was built on the lower slopes of a narrow east–west-oriented valley. The burials on the north slope are tightly packed into two topographically distinct subgroups separated by a semicircular bedrock outcrop. On the south slope, in a third group, the burials are more broadly spaced, extending in a series of regular lines approximately one-third of the distance upslope.

GENERAL DESCRIPTION

Although the burial groups within Tsaghkahovit Burial Cluster 12 appear to comprise a single very large cluster, they are differentiable into three subgroups by elements of form and construction, as well as topography. Group 1 is the most proximal to Tsaghkahovit's southeast settlement and also the most densely packed of the groups. Standard and paved cromlechs are densely packed atop one another on a series of three terraces formalized by small masonry walls. Overall, no less than thirty-five cromlechs are clearly distinguishable within 600 square m. On the eastern edge of Group 1 is a bare rock outcrop that divides it from Group 2. This group includes at least thirty standard and paved cromlechs. The cromlechs of Group 2 are more broadly spaced, extending rather indefinitely to the northeast. Yet, as the description of feature 1 makes clear, some burials remain stratigraphically superimposed despite the broader spacing. Group 3 cromlechs spread across the facing slope, across the valley, and are also broadly spaced. Eighteen standard and eight paved cromlechs are clearly visible, although alluvial deposits have obscured many of the burials.

ASSOCIATED FEATURES AND MATERIALS

No surface materials were found.

Project ArAGATS 1998
Ts BC 12
Tomb 1

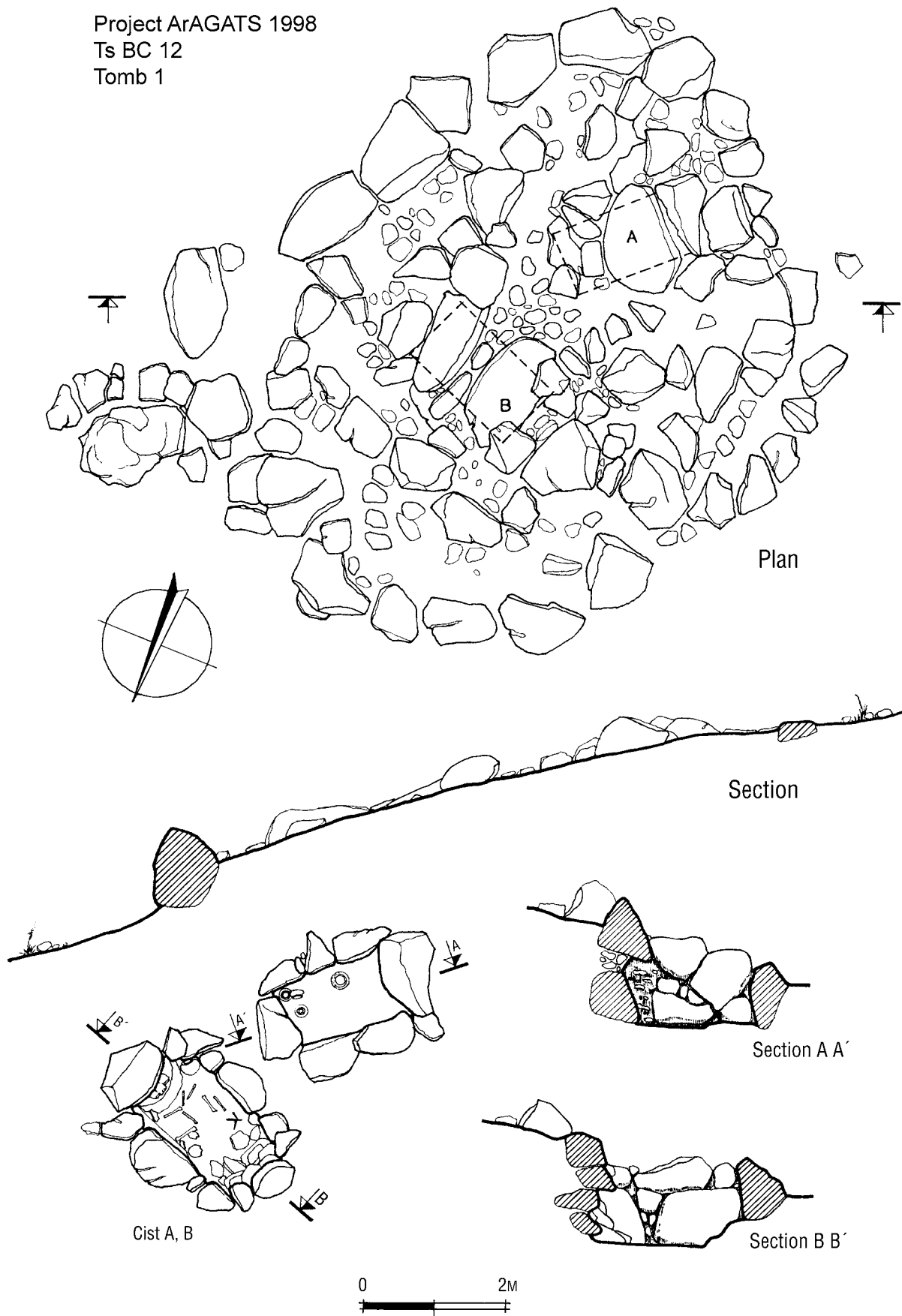


Figure 41. Tsaghkahovit Burial Cluster 12 Tomb 1

Feature 1 is a large paved cromlech, 9.0 m in diameter east–west \times 9.6 m north–south, which we excavated in 1998 (figs. 41–42). From the surface, the feature appeared to be a single large burial; however, after cleaning the surface of the cromlech, it became clear that the feature was in fact two stratigraphically superimposed burials where the mortuary construction associated with Cist A was built atop the cromlech surrounding Cist B. Both chambers were stone lined and capped with large basalt blocks. Cist B ($1.75 \times 1.05 \times 1.10$ m) was oriented northwest–southeast while Cist A ($1.70 \times 0.90 \times 1.15$ m) was oriented northeast–southwest. In Cist A we found four Late Bronze II vessels, but no skeletal material. In Cist B we found two whole and two partial Late Bronze II ceramic vessels in association with a handful of human bones, including the top of a cranium and several long bones. The ceramics found in both chambers echo materials recovered from the fortress trenches in both form and design, suggesting contemporaneity between the cemetery and the fortress. See Avetisyan, Badalyan, and Smith 2000. This burial cluster and the excavated tomb are published in prior publications under the designation East Cemetery 1, tomb 1. At the conclusion of the survey, all sites were renumbered in order to maintain referential integrity.

BURIAL CLUSTER 13

PLACE NUMBER	Ar/Ts.010.01	ILLUSTRATION	Pls. 16, 75b
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,280
UTM EASTING	435112	LATITUDE	40° 37.443'
UTM NORTHING	4497307	LONGITUDE	44° 13.968'
PERIODIZATION	Late Bronze/Iron I, Iron III		

ASSOCIATION

Tsaghkahovit Burial Cluster 13 is located 0.25 km southwest of Tsaghkahovit Burial Cluster 10 (map quadrant B4o).

TOPOGRAPHY

The burials of this cluster were built along the southeast-facing slope of a bedrock ridge. While the opposite slope of the ridge is imposingly steep and highly eroded, this slope is comparatively gentle, terminating in an elevated basin.

GENERAL DESCRIPTION

This cluster hosts eleven small cist burials with three small cromlechs built along the east, west, and northeast edges. The cists average 1.5×1.0 m and tend to be more rectilinear in shape. They are built of small basalt cobbles packed to form a stone surface, only partially visible without excavation. The cromlechs are standard-style constructions ranging from 4.0 m to 4.8 m in diameter. The cluster overall is 21 m east–west \times 19 m north–south.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 (pl. 75b) is an elongated cist 0.75 m wide \times 1.40 m long. It is constructed of medium, unworked basalt blocks and appears to be curved at one end.

Figure 42. Materials from Tsaghkahovit Burial Cluster 12 Tomb 1 Chamber B and Chamber A

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>
<i>Locus</i>	Burial Cluster 12 Tomb 1 Chamber B	Burial Cluster 12 Tomb 1 Chamber B	Burial Cluster 12 Tomb 1 Chamber B	Burial Cluster 12 Tomb 1 Chamber B	Burial Cluster 12 Tomb 1 Chamber A	Burial Cluster 12 Tomb 1 Chamber A	Burial Cluster 12 Tomb 1 Chamber A	Burial Cluster 12 Tomb 1 Chamber A
<i>Sherd No.</i>	C	B	D	A	B	C	A	D
<i>Period</i>	Late Bronze III	Late Bronze III	Late Bronze III	Late Bronze III	Late Bronze II	Late Bronze II	Late Bronze II	Late Bronze II
<i>Fragment</i>	Rim–Body	Whole	Whole	Whole	Whole	Whole	Whole	Whole
<i>Form</i>	Open Jar	Closed Jar	Closed Jar	Closed Jar	Bowl	Closed Jar	Bowl	Closed Jar
<i>Rim Variant</i>	Rounded Everted	Rounded Everted	Rounded Everted	Rounded Everted	Rounded Everted	Band	Flat	Ledge
<i>Exterior Color</i>	Black	Black	Gray	Buff	Black	Black	Black	Black
<i>Interior Color</i>	Black	Black	Gray	Buff	Black	Buff	Black	Gray
<i>Fabric Color</i>	Brown	Black	Gray	Gray	Gray	Brown	—	Brown
<i>Inclusions</i>	Medium–Coarse	Medium–Coarse	Medium	Medium	Medium	Medium	Medium	Medium
<i>Slip</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Surface Treatment</i>	Polished	Polished	Smoothed	Polished	Polished	Smoothed	Polished	Polished
<i>Rim Diameter / Percent</i>	19.00 cm / 26%	6.50 cm / 100%	11.00 cm / 40%	24.80 cm / 100%	11.36 cm / 100%	12.52 cm / 100%	10.68 cm / 100%	8.28 cm / 100%

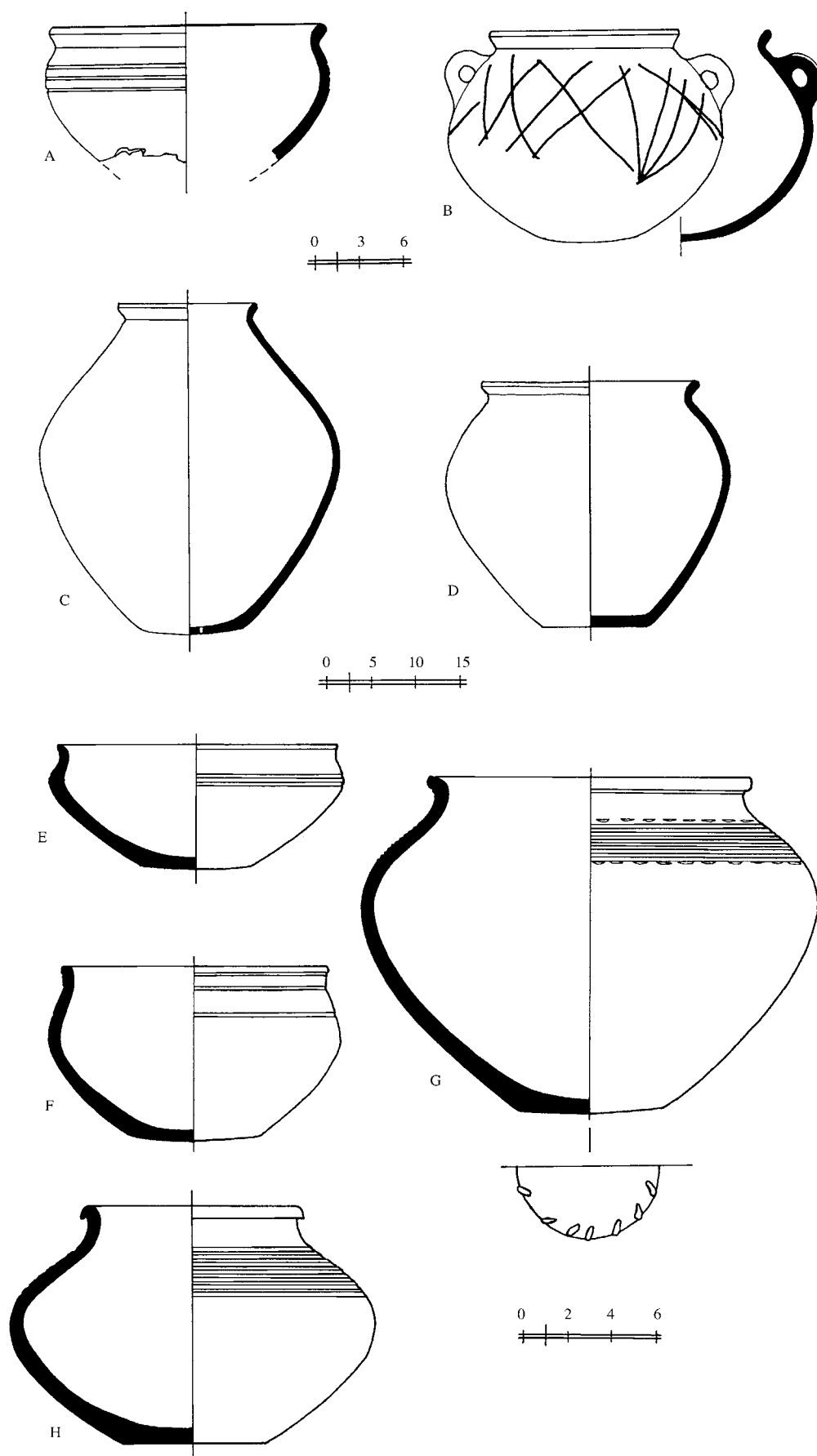


Figure 42. Materials from Tsaghkahovit Burial Cluster 12 Tomb 1 (a–d) Chamber B and (e–h) Chamber A

TSAGHKAHOVIT QUADRANT (*cont.*)*BURIAL CLUSTER 14*

PLACE NUMBER	Ar/Ts.022.05	ILLUSTRATION	Pls. 16, 18
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,190
UTM EASTING	435511	LATITUDE	40° 37.931'
UTM NORTHING	4498207	LONGITUDE	44° 14.246'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 14 lies 0.68 km southeast (bearing 132°) of Tsaghkahovit Fortress, on the eastern edge of the same plateau that contains Tsaghkahovit Burial Cluster 7 located 0.21 km to the west (map quadrant B4p).

TOPOGRAPHY

The burials are clustered on the eastern flank of a long plateau bordered on the north by a sharp bedrock ridge and on the south by a smaller set of eroded hills.

GENERAL DESCRIPTION

Although the cluster of burials as a whole is rather densely packed, the burials themselves appear to be rather discrete. Eighteen standard cromlechs are clearly visible from the surface ranging from 3 to 9 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a moderately sized standard cromlech, 7 m in diameter constructed of a single outer circle of small to medium basalt blocks surrounding two large basalt capstones.

BURIAL CLUSTER 15

PLACE NUMBER	Ar/Ts.028.01	ILLUSTRATION	Pls. 18, 77a
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,223
UTM EASTING	435827	LATITUDE	40° 38.086'
UTM NORTHING	4498513	LONGITUDE	44° 14.442'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 0.84 km east (bearing 100°) of Tsaghkahovit Fortress, this cluster sits on the lowest reaches of the Mount Aragats slope, just above a series of now-abandoned Soviet-era buildings (map quadrant C4d).

TOPOGRAPHY

The burials of Tsaghkahovit Burial Cluster 15 are set on the lowest reaches of Mount Aragats, on the terminal slope above the Tsaghkahovit Plain. The area is strewn with eroding bedrock boulders.

GENERAL DESCRIPTION

This cluster of burials extends laterally east–west approximately 55 m but only 10–15 m north–south. The cluster includes five standard, three mounded, one budding, and five paved cromlechs. It is likely that the cluster includes more burials, but the eroded surroundings and bedrock boulders make confident identification difficult. The cluster appears to be divided into distinct subgroups.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 (pl. 77a) is a large paved cromlech, 9.0 m north–south \times 9.5 m east–west. It is built of weathered basalt blocks, lightly worked to allow the paving stones to fit loosely together. Like most paved cromlechs, there is no single capstone visible from the surface. The center of the cromlech is slightly raised (ca. 40 cm) above the surrounding terrain.

Feature 2 is a moderately sized budding cromlech, 7.5 m north–south \times 5.5 m east–west. Attached to the eastern arc of the outer ring of stones is a small rectilinear satellite chamber, 2.5 m north–south \times 2.6 m east–west. The primary cromlech itself is paved with densely packed basalt blocks. While the outline of the secondary construction is visible from the surface, no capstone is visible.

BURIAL CLUSTER 16

PLACE NUMBER	Ar/Ts.028.03	ILLUSTRATION	Pls. 16, 18
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,231
UTM EASTING	435768	LATITUDE	40° 37.958'
UTM NORTHING	4498274	LONGITUDE	44° 14.421'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 16 is located 0.90 km southeast (bearing 117°) of Tsaghkahovit Fortress, 0.27 km east of Tsaghkahovit Burial Cluster 14 (map quadrant C4d).

TOPOGRAPHY

The burials appear atop an east-facing ridge, descending into the elevated plateau below.

GENERAL DESCRIPTION

This cluster of nineteen standard, stepped, and spiral cromlechs is quite discrete from the unbuilt surrounding area. However, the burials are not well preserved. Several burials are highly eroded while others seem to have largely collapsed. In addition, fallen boulders, strewn across the area, obscure other possible burials. The cluster measures 51 square m.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a stepped cromlech, 3.3 m in diameter north–south \times 3.6 m east–west. It is built of medium basalt blocks lightly worked to fit into two well-carpentered concentric circles. The interior circle is raised 35 cm above the level of the outer ring. Inside the interior circle is a single large basalt capstone.

Feature 2 is a small spiral cromlech 2.5 m north–south \times 3.0 m east–west. The spiral begins on the east side of the cromlech, running into a concentric circle built of spaced, unworked, small basalt blocks. On its northern arc the circle turns inward, spiraling in a second concentric ring to a terminus near the center of the construction.

BURIAL CLUSTER 17

PLACE NUMBER	Ar/Ts.026.02	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,212
UTM EASTING	435772	LATITUDE	40° 37.875'
UTM NORTHING	4498101	LONGITUDE	44° 14.482'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Just 0.12 km east of Tsaghkahovit Burial Cluster 11, this cluster of cromlechs is 0.95 km southeast (bearing 126°) of Tsaghkahovit Fortress (map quadrant B4p).

TSAGHKAHOVIT QUADRANT (*cont.*)

TOPOGRAPHY

The cromlechs of Tsaghkahovit Burial Cluster 17 lie in a flat saddle between flanking rock outcrops. The area resembles a passageway through eroded ridges to the east and west.

GENERAL DESCRIPTION

A small cluster of five standard cromlechs. The burials vary from 3 to 5 m in diameter and are all built of unworked basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 18

PLACE NUMBER	Ar/Ts.041.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,116
UTM EASTING	435851	LATITUDE	40° 37.887'
UTM NORTHING	4498122	LONGITUDE	44° 14.488'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 18 is 0.08 km east of Tsaghkahovit Burial Cluster 17, separated by a north–south–running eroded bedrock ridge (map quadrant B4p).

TOPOGRAPHY

This cluster spills across an east-facing eroded slope onto a plateau that bears the marks of recent agricultural cultivation.

GENERAL DESCRIPTION

The portion of the cluster within the basin includes four standard cromlechs that are quite discrete and appear to be well preserved. The burials along the slope are not well preserved and far harder to count due to the clutter of large boulders. The burials are generally small — between 3.5 and 4.3 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 19

PLACE NUMBER	Ar/Ts.028.04	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,283
UTM EASTING	435708	LATITUDE	40° 37.614'
UTM NORTHING	4497614	LONGITUDE	44° 14.397'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster of cromlechs is 0.32 km northeast (bearing 48°) of Tsaghkahovit Reservoir 1 and 1.27 km southeast (bearing 146°) of Tsaghkahovit Fortress (map quadrant B4p).

TOPOGRAPHY

Tsaghkahovit Burial Cluster 19 stretches along the lower slope of a southeast-facing ridge. The adjacent basin shows signs of recent cultivation, suggesting that burials may once have spread across a larger area.

GENERAL DESCRIPTION

This cluster includes five widely spaced standard cromlechs and a single budding cromlech, although it is quite likely that several additional burials may be obscured by eroding bedrock. The cluster extends across an area 58 m east–west × 14 m north–south. The burials are constructed of highly weathered, unworked basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 20

PLACE NUMBER	Ar/Ts.041.02	ILLUSTRATION	Pls. 16, 76b
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,267
UTM EASTING	435877	LATITUDE	40° 37.511'
UTM NORTHING	4497427	LONGITUDE	44° 14.510'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Due east 0.41 km of Tsaghkahovit Reservoir 1, on a plateau bearing the signs of recent cultivation, this cluster of burials is comparably isolated in contrast with most mortuary sites in the hinterlands beyond Tsaghkahovit Fortress (map quadrant B4p).

TOPOGRAPHY

The burials of Tsaghkahovit Burial Cluster 20 congregate on the western edge of a large plateau. To the east, a small passageway between bedrock outcrops opens onto a large basin that also appears to have been cultivated in recent years.

GENERAL DESCRIPTION

Tsaghkahovit Burial Cluster 20 spreads across an area 20 m east–west × 25 m north–south, making it one of the more compact clusters in the vicinity. The burials of Tsaghkahovit Burial Cluster 20 include three paved, four standard, and one mounded cromlech.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is an oddly shaped, paved cromlech. The burial is oblong, 2.9 m east–west × 2.0 m north–south. The western edge appears to be flattened, lending this segment a somewhat rectilinear form. The eastern edge, in contrast, seems to be pointed, lending the construction as a whole a unique shield shape. The building blocks are large, worked basalt blocks.

Feature 2 is a remarkably small mounded cromlech, just 1.6 m in diameter. The mound is also unique in that it is constructed predominantly of tuff cobbles (as opposed to most mortuary mounds built of basalt cobbles).

Feature 3 (pl. 76b) is an excellent example of a stepped cromlech with a flat outer ring inscribed with a raised inner ring. It is 7.4 m in diameter and constructed of large, unworked basalt blocks.

TSAGHKAHOVIT QUADRANT (*cont.*)*BURIAL CLUSTER 21*

PLACE NUMBER	Ar/Ts.043.01	ILLUSTRATION	Pl. 18
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,314
UTM EASTING	434579	LATITUDE	40° 36.599'
UTM NORTHING	4495750	LONGITUDE	44° 13.600'
PERIODIZATION	Middle Bronze, Late Bronze/Iron I		

ASSOCIATION

Located 0.13 km east (bearing 83°) of Tsaghkahovit Burial Cluster 22, Tsaghkahovit Burial Cluster 21 is part of a constellation of burial clusters 1.07 km east of Tsaghkahovit Fortress (map quadrant C4d).

TOPOGRAPHY

These burials are set within a shallow basin that slopes north to the terminus of the Aragats massif. They are separated from Tsaghkahovit Burial Cluster 22 by a narrow drainage.

GENERAL DESCRIPTION

This rather indistinct group of burials, an area roughly 20 × 25 m, includes ten standard cromlechs and a single moderately sized kurgan. The cromlechs are generally small to medium sized. On the eastern edge of the cluster is a stone masonry wall built of at least one line of large basalt blocks. Only one face is visible, suggesting that, like Tsaghkahovit Burial Cluster 12, the burials may have been built atop a stone-reinforced terrace. However, it is also possible that the wall and the burials are not contemporaneous.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is the single large kurgan on the western end of the cluster. The kurgan is 8.50 m in diameter, constructed of tuff and basalt cobbles forming a mound that rises 45 cm above the level of the surrounding terrain.

Feature 2 is a rather unremarkable standard cromlech, 5.0 m in diameter north–south × 5.5 m east–west. Only the outer ring of stones, built of small, largely unworked basalt blocks, is visible. What is unique about this construction, however, is its incorporation of a single large basalt stone containing a basin cut into its upper surface into the eastern arc of the outer ring. Such basins are well documented from Late Bronze settlement contexts at Tsaghkahovit Fortress, but it is only rarely that they appear as elements of mortuary installations.

Feature 3 is a moderately sized cromlech, 4.3 m in diameter north–south × 4.0 m east–west. It is difficult to assess the style of the cromlech, as few of the construction blocks are consecutively visible. However, the basalt blocks are quite large — some stretch 1 m along one axis — and their tops are slightly raised above the level of the sloping terrain.

BURIAL CLUSTER 22

PLACE NUMBER	Ar/Ts.048.01	ILLUSTRATION	Pl. 18
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,140
UTM EASTING	435931	LATITUDE	40° 38.068'
UTM NORTHING	4498447	LONGITUDE	44° 14.539'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 22 is a mere 0.12 km southeast of Tsaghkahovit Burial Cluster 15, within a dense constellation of burial clusters that also includes Tsaghkahovit Burial Clusters 21 and 23 (map quadrant C4d).

TOPOGRAPHY

The burials of Tsaghkahovit Burial Cluster 22 are set on the lower southern slope of an extended bedrock ridge that forms the north border of a basin that drops slowly onto the Tsaghkahovit Plain. This ridge is a terminal spur of Mount Aragats, the leading edge of the volcanic massif enclosing the southern margin of the Tsaghkahovit Plain.

GENERAL DESCRIPTION

The nine visible standard cromlechs in this cluster are largely buried and covered by sod. Only portions of the outer rings of the constructions are visible — no capstones. The burials are distributed broadly across an area measuring approximately 15 × 20 m in size.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 23

PLACE NUMBER	Ar/Ts.043.02	ILLUSTRATION	Pls. 16, 18, 77b
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,149
UTM EASTING	435911	LATITUDE	40° 37.976'
UTM NORTHING	4498263	LONGITUDE	44° 14.508'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 23 is located 0.99 km southeast (bearing 114°) of Tsaghkahovit Fortress in an area dense with burial clusters, including Tsaghkahovit Burial Cluster 16 located 0.14 km to the west (map quadrant B4p).

TOPOGRAPHY

The burials rest on a gentle slope backed by a bedrock ridge that slopes northward to the foot of the Aragats massif.

GENERAL DESCRIPTION

Tsaghkahovit Burial Cluster 23 includes seventeen cromlechs built in mounded, standard, budding, and spiral styles. Overall, the burials in this cluster are moderate in size, ranging from 4.5 m to 7.0 m in diameter. On the western edge of the cluster is a single line of well-shaped, medium to large basalt blocks. The construction is 80 cm thick and is visible along an 11 m course.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

TSAGHKACHOVIT QUADRANT (*cont.*)

Feature 1 (pl. 77b) is a standard cromlech, 4.7 m north–south \times 6.0 m east–west. The burial is constructed of medium and large, shaped basalt blocks. The immensity of some of the stones appears to in effect raise the plane of the construction 50–65 cm above the modern ground surface in places.

BURIAL CLUSTER 24

PLACE NUMBER	Ar/Ts.043.04	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,215
UTM EASTING	435847	LATITUDE	40° 37.586'
UTM NORTHING	4497590	LONGITUDE	44° 14.491'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster of cromlechs is adjacent to the southern end of Tsaghkakhovit Isolated Architecture 5, 0.14 km east (bearing 100°) of Tsaghkakhovit Burial Cluster 19 (map quadrant B4p).

TOPOGRAPHY

The burials are spread across the upper third of a fairly steep southeast-facing slope overlooking one of the larger, flat basins in this part of the north Aragats slope. Not surprisingly, there is considerable evidence of recent cultivation.

GENERAL DESCRIPTION

Tsaghkakhovit Burial Cluster 24 is a rather amorphous group of sixteen standard cromlechs. The burials extend around the curving slope of a small bedrock outcrop. Near the summit, the weathered boulders intermingle with building stones suggesting the cluster might include more cromlechs than could be accurately counted.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is an elongated cromlech, 5.5 m north–south \times 6.2 m east–west, crossed by a later superimposed wall. The cromlech is somewhat obscured by the later construction of the wall, but appears to have been built in the standard style with small to medium basalt blocks. The wall crosses along the center of the cromlech's long axis, extending a total of 8.3 m before disappearing. The wall consists of a single line of unworked basalt blocks.

BURIAL CLUSTER 25

PLACE NUMBER	Ar/Ts.048.03	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,166
UTM EASTING	436053	LATITUDE	40° 37.879'
UTM NORTHING	4498106	LONGITUDE	44° 14.631'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 1.19 km southeast (bearing 118°) of Tsaghkakhovit Fortress, Tsaghkakhovit Burial Cluster 25 was built along an isolated bedrock outcrop, separated from nearby clusters to the east and west by broad intervening basins (map quadrant B4p).

TOPOGRAPHY

The area of Tsaghkahovit Burial Cluster 25 is strewn with loose boulders and eroding bedrock. The burials extend over the southern, eastern, and western slopes at the terminus of a small north–south-oriented ridge.

GENERAL DESCRIPTION

The fourteen clearly identifiable standard cromlechs in this cluster extend across an area 32×25 m. An exact count is difficult due to the local erosion and intervening stone boulders.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is one of the few looted burials discovered during our survey. The southern end of the construction appears to have been bulldozed, suggesting incidental looting related to amelioration of the adjacent basin for cultivation rather than targeted destruction. Vegetation in the area suggests the looting was relatively recent but not immediately prior to our discovery of the site. The lack of surface materials suggests either the tomb was empty or thoroughly cleaned out. The burial is 3.2 m in diameter; the stone-lined chamber is 1.3 m in length.

BURIAL CLUSTER 27

PLACE NUMBER	Ar/Ts.053.01	ILLUSTRATION	Pls. 16, 18
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,159
UTM EASTING	436242	LATITUDE	40° 37.960'
UTM NORTHING	4498259	LONGITUDE	44° 14.757'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 27 is located atop a terminal ridge of Mount Aragats, 1.30 km southeast (bearing 108°) of Tsaghkahovit Fortress, overlooking Tsaghkahovit Burial Cluster 28 (map quadrant C4d).

TOPOGRAPHY

These burials are set atop a terminal ridge of the Aragats slope, perched above the final descent into the Tsaghkahovit Plain.

GENERAL DESCRIPTION

The twenty-six identifiable burials in this cluster are tightly packed and moderately sized, ranging from 5.2 m to as large as 7.0 m in diameter. The styles are slightly varied, including standard, stepped, mounded, and paved constructions.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a moderately sized, stepped cromlech built of three concentric rings of small to medium basalt blocks. The larger stones of the outer ring are the most conspicuously worked to establish the curving line of the feature. The stones of the second ring are shaped, but the small blocks of the inner ring are irregular and unworked. Inside this final ring are two medium, unworked blocks and a very large capstone boulder that rises 80 cm above the ground.

Feature 2 is a sizable mounded cromlech 7 m in diameter east–west \times 6 m north–south, yielding a slightly distended aspect to the construction. The outer ring is built of lightly worked, medium and large basalt blocks while the mound appears to be made of earth. The mound rises 70 cm above the surrounding territory at its maximum height.

TSAGHKACHOVIT QUADRANT (*cont.*)*BURIAL CLUSTER 28*

PLACE NUMBER	Ar/Ts.054.02	ILLUSTRATION	Pl. 18
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,173
UTM EASTING	436286	LATITUDE	40° 38.039'
UTM NORTHING	4498408	LONGITUDE	44° 14.798'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 28 is one of a group of burial clusters located along the terminal slope of the Aragats massif. This cluster, 1.31 km east (bearing 101°) of Tsaghkahovit Fortress, lies 0.26 km south of the southeastern most complex of buildings related to Soviet-era Tsaghkahovit's collective farming (map quadrant C4d).

TOPOGRAPHY

The area of the cluster slopes gently downward to the north as the folds of Mount Aragats reach the flats of the Tsaghkahovit Plain.

GENERAL DESCRIPTION

The twenty-four burials of this cluster are generally quite small and discrete. They range in diameter from 2.3 to 4.5 m and extend across an area roughly 70 × 40 m. The tombs vary in style, including standard, paved, and spiral forms.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 29

PLACE NUMBER	Ar/Ts.050.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,179
UTM EASTING	436114	LATITUDE	40° 37.247'
UTM NORTHING	4497787	LONGITUDE	44° 14.596'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster lies adjacent to the eastern end of Tsaghkahovit Isolated Architecture 5 feature 2 (map quadrant B4p).

TOPOGRAPHY

This cluster spreads across the northern edge of an extended basin as it abuts an enclosing eroded bedrock ridge. The basin bears the marks of recent cultivation, suggesting part of this cluster may have been disturbed. The cluster partially ascends a small bedrock outcrop.

GENERAL DESCRIPTION

Tsaghkahovit Burial Cluster 29 includes seventeen visible standard cromlechs, generally no larger than 4 m in diameter. The visible features are all constructed of unworked or lightly shaped, small to medium basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 30

PLACE NUMBER	Ar/Ts.050.02	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,195
UTM EASTING	436164	LATITUDE	40° 37.855'
UTM NORTHING	4498104	LONGITUDE	44° 14.676'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 30 is located just east of Tsaghkahovit Burial Cluster 25, across a single eroded bedrock ridge (map quadrant B4p).

TOPOGRAPHY

This cluster of burials lies on a flat area east of an extended bedrock ridge. The area drops gradually farther east into a small valley with a natural drainage.

GENERAL DESCRIPTION

This small cluster of cromlechs includes seventeen visible standard cromlechs, including several large constructions reaching a maximum of 13.5 m in diameter. However, most are more moderately scaled, averaging 4–7 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 31

PLACE NUMBER	Ar/Ts.051.04	ILLUSTRATION	Pl. 18
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,141
UTM EASTING	436154	LATITUDE	40° 38.056'
UTM NORTHING	4498432	LONGITUDE	44° 14.701'
PERIODIZATION	Late Bronze/Iron I, Iron III		

ASSOCIATION

Just 0.10 km southeast (bearing 107°) of Tsaghkahovit Burial Cluster 21 and 0.23 km due south of the southeasternmost buildings of the Tsaghkahovit Soviet-era collective farm, this cluster is 1.17 km east of Tsaghkahovit Fortress (map quadrant C4d).

TOPOGRAPHY

The burials of Tsaghkahovit Burial Cluster 31 are spread across the midsection of the terminal slope of Mount Aragats as it drops to the Tsaghkahovit Plain. Above is a ridge of weathered bedrock that appears to have been the source for the many large boulders that litter the area.

GENERAL DESCRIPTION

Tsaghkahovit Burial Cluster 31 is one of the few burial clusters in the hinterlands of Tsaghkahovit Fortress to include cist burials as well as the more typical cromlech burials. The tombs extend across an area 40 m east–west × 35 m north–south. Cromlechs are focused primarily, though not exclusively, in the southern half of the cluster. The boulders and uneven soil deposits of the eroding slope make it difficult to count the number of extant cromlechs; however, at least twelve were clearly visible. The cists, given their general appearance as a densely packed cluster of cobbles, are even harder to count. They are focused in the northern half of the cluster. They are densely packed and rarely exceed 2 m in diameter. Eighteen cists were recorded, but it is likely that the area includes a larger

TSAGHKAHOVIT QUADRANT (*cont.*)

population. The cromlechs in the northern half of the cluster are distributed among the cists, while the more southern cromlechs are relatively small, ranging from 2.5 to 4.0 m in diameter. Those of the northern half are slightly larger, ranging from 4 to 6 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 32

PLACE NUMBER	Ar/Ts.057.01	ILLUSTRATION	Pls. 18–19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,171
UTM EASTING	436386	LATITUDE	40° 38.062'
UTM NORTHING	4498442	LONGITUDE	44° 14.865'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This burial cluster is located just 0.11 km northeast (bearing 71°) of Tsaghkahovit Burial Cluster 28 and 0.45 km south of the road that follows the intersection of the mountain slope and the plain. Tsaghkahovit Burial Cluster 32 is potentially an extension of Tsaghkahovit Burial Cluster 33 as they occupy the same ridge. However, the unbuilt space between the two clusters argues for distinguishing them (map quadrant C5a).

TOPOGRAPHY

This cluster of burials is set atop an east–west-oriented ridgeline which overlooks a terminal spur of Mount Aragats as it cascades into the Tsaghkahovit Plain. Burials also appear to extend down the northern slope.

GENERAL DESCRIPTION

A moderately sized cluster of irregular (and thus unclassifiable), standard, and mounded cromlechs, Tsaghkahovit Burial Cluster 32 includes a maximum of ten tombs along with a number of other rock clusters that present little architectural regularity. The cromlechs are quite discrete, but poorly formed (or perhaps highly impacted by post-depositional factors). None appears to be looted. All average between 3.5 m to 5.0 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a mounded cromlech and one of the most distinct in the cluster. It is located on top of the ridge and composes an irregular oval ranging from 3.5 to 5.0 m across. The burial was built of an outer ring of medium, shaped basalt blocks encircling an interior mound of small cobbles.

BURIAL CLUSTER 33

PLACE NUMBER	Ar/Ts.057.02	ILLUSTRATION	Pls. 18–19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,163
UTM EASTING	436350	LATITUDE	40° 38.012'
UTM NORTHING	4498349	LONGITUDE	44° 14.840'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 0.10 km southwest of Tsaghkahovit Burial Cluster 32, this cluster occupies the base of the southern slope of the same ridge and indeed may be part of the same concentration of burials. However, the unique

topographical positioning of the cluster, the empty slope between it and Tsaghkahovit Burial Cluster 32, and the distinct architecture suggest it is worthwhile to distinguish the two sites (map quadrant C4d).

TOPOGRAPHY

The burials are set at the bottom of an east–west-oriented ridge, on one edge of a small basin. None occupies the basin proper but instead all hug the edges, gravitating toward the margins, much as the fortresses of the plain hug the mountain slopes. As a result, they are distributed across a curving area on the north and northwest edges of the basin.

GENERAL DESCRIPTION

This cluster is quite sizable, containing an estimated fifty cromlechs, primarily of the mounded and standard variety. On the southern edge of the cluster is a linear stone feature that appears too roughly shaped to be an associated wall and instead may well be the product of later field clearance in the basin. This also raises the possibility that cromlechs which had occupied the basin proper were destroyed by later agricultural activity.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is an unusually small cromlech for this cluster, only 3 m in diameter. It is constructed of small, unworked blocks set in a ring around a central, unmounded area filled with small stone cobbles in between the small capstone blocks. This is either a mounded cromlech where the mound has been removed leaving only a few interspersed cobbles, or a variation on the paved cromlech where small cobbles fill the gaps between the stone blocks.

BURIAL CLUSTER 34

PLACE NUMBER	Ar/Ts.062.02	ILLUSTRATION	Pls. 17, 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,181
UTM EASTING	436490	LATITUDE	40° 37.957'
UTM NORTHING	4498247	LONGITUDE	44° 14.940'
PERIODIZATION	Late Bronze/Iron I, Iron III		

ASSOCIATION

Tsaghkahovit Burial Cluster 34 is located on the southeast edge of the same basin where Tsaghkahovit Burial Cluster 33 is located and 0.25 km east (bearing 93°) of Tsaghkahovit Burial Cluster 27 (map quadrant C5a).

TOPOGRAPHY

Like Tsaghkahovit Burial Cluster 33, this cluster occupies the margins of a small basin below a low north–south-oriented ridgeline. It extends three-fourths of the distance up the slope but does not reach to the summit of the ridge. The area is strewn with large boulders which may obscure some of the burials.

GENERAL DESCRIPTION

The burials of this cluster include cist burials and standard cromlechs composed of one or two rings of stone. The cromlechs show some interesting variability in their capstones. While some are flat and level with the ground, others employ large irregular boulders that extend well above the modern surface. There are approximately ten clearly definable cromlechs with a few other possible constructions obscured by deposits washed down from the adjacent slope and by large boulders. The largest cromlech in the cluster is 4 m in diameter while the smallest is just 50 cm. The cist burials (ca. ten to twelve are visible) in this area seem to cluster on the west side of the site. They are generally rectangular, 1.0–1.5 m long × 0.2–0.4 m wide.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

TSAGHKAHOVIT QUADRANT (*cont.*)*BURIAL CLUSTER 35*

PLACE NUMBER	Ar/Ts.059.02	ILLUSTRATION	Pls. 16–17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,231
UTM EASTING	436416	LATITUDE	40° 37.808′
UTM NORTHING	4497971	LONGITUDE	44° 14.889′
PERIODIZATION	Late Bronze/Iron I, Iron III		

ASSOCIATION

Tsaghkahovit Burial Cluster 35 sits on the northwest side of the same hill on which the tower construction of Tsaghkahovit Isolated Architecture 6 was found. It is 1.57 km southeast (bearing 116°) of Tsaghkahovit Fortress (map quadrant B5m).

TOPOGRAPHY

This site lies on the western slope of a long north–south-oriented promontory. The slope itself is relatively clear of rubble and eroded bedrock.

GENERAL DESCRIPTION

The cist burials in this cluster are widely dispersed on the northern edge of the site. The approximately fifteen visible cists are all constructed of small basalt and tuff cobbles arranged in ovals ranging from 1.75 to 3.00 m in maximum length. They are thus slightly larger than most other cists recorded during the survey. Nevertheless, they generally lack a clear circumferential ring of stones and are unrounded (or slightly concave) and are thus more akin to cist burials. The cromlechs in this burial are concentrated on the southern extent of the site. They consist primarily of mounded cromlechs arranged in an irregular line. The cromlechs average 5 m in diameter with an elevated mound of tuff and basalt cobbles (ca. 15 cm above the existing ground surface). Several burials also have large capstones in the center, around which the mound was built.

ASSOCIATED FEATURES AND MATERIALS

No surface material.

Feature 1 is an ambivalent case that appears to be part cist and part cromlech. Constructed primarily of small tuff and basalt cobbles, there is also a perceptible ring of small tuff and basalt blocks around the perimeter. The feature is 1.75 m east–west × 1.50 m north–south.

BURIAL CLUSTER 36

PLACE NUMBER	Ar/Ts.059.03	ILLUSTRATION	Pls. 16–17, 75a
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,340
UTM EASTING	436316	LATITUDE	40° 37.473′
UTM NORTHING	4497353	LONGITUDE	44° 14.822′
PERIODIZATION	Iron Age III		

ASSOCIATION

Tsaghkahovit Burial Cluster 36 lies 0.20 km southwest (bearing 196°) of Tsaghkahovit Burial Cluster 37 and 1.86 km southeast of Tsaghkahovit Fortress (bearing 225°) (map quadrant B4p).

TOPOGRAPHY

This cluster of cist burials lies on the west slope of a low, north–south-oriented ridge, on the eastern bank of Tsaghkahovit Canal 3.

GENERAL DESCRIPTION

This burial cluster represents the only concentration of exclusively cist burials in the immediate hinterlands of Tsaghkahovit Fortress and its Iron III lower town. Although most of the thirteen visible burials are quite small, there is a single large grave in the center of the group (feature 2).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 (pl. 75a) is quite typical of cist burials. It is 1.65 m north–south × 1.00 m east–west. The main body of the tomb is composed of small tuff and basalt cobbles, but the northern quarter of the cist is built of two medium, unworked basalt blocks.

Feature 2, in contrast, is the largest burial in the cluster and may indeed be two burials packed tightly together. The shape of the burial is quite irregular, 7.0 m north–south × 4.2 m east–west. The body of the burial is built of small tuff and basalt cobbles with three or four medium basalt blocks strewn near the northern and southern extremities. In the center are three large, unworked basalt blocks, which may be capstones.

BURIAL CLUSTER 37

PLACE NUMBER	Ar/Ts.060.03	ILLUSTRATION	Pls. 16–17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,278
UTM EASTING	436365	LATITUDE	40° 37.621'
UTM NORTHING	4497629	LONGITUDE	44° 14.847'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 37 is located 0.43 km south (bearing 186°) of Tsaghkahovit Burial Cluster 35 (map quadrant B5m).

TOPOGRAPHY

This very small cluster of cromlechs is set among eroded boulders on the uneven, rocky terrain of a northeast-facing ridge slope (map quadrant B5m).

GENERAL DESCRIPTION

Only three cromlechs are clearly visible in this cluster, but it is potentially larger since the eroded boulders tend to disrupt efforts to discern individual features. Two of the burials are standard cromlechs while the third is a paved cromlech.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is the single paved cromlech in the cluster. It measures 2.2 m north–south × 2.6 m east–west. The medium-sized blocks that make up the center of the burial are all of basalt and all are slightly shaped to fit together into an integrated paved surface.

TSAGHKAHOVIT QUADRANT (*cont.*)*BURIAL CLUSTER 38*

PLACE NUMBER	Ar/Ts.059.05	ILLUSTRATION	Pls. 16, 75d
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,349
UTM EASTING	436257	LATITUDE	40° 37.375'
UTM NORTHING	4497172	LONGITUDE	44° 14.781'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster of burials is located 0.81 km east (bearing 106°) of Tsaghkahovit Reservoir 1 and 0.19 km southwest (bearing 198°) of Tsaghkahovit Burial Cluster 36, just west of Tsaghkahovit Canal 3 (map quadrant B4l).

TOPOGRAPHY

Set on a gentle west-facing slope, this cluster extends to the margins of a small basin, where there is extensive evidence of recent agricultural activity.

GENERAL DESCRIPTION

The burials in this cluster include both cromlechs (standard) and cists. The cists are quite small and numerous, making up twelve of the nineteen total visible burial features.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 (pl. 75d) is one of the better examples of cist graves in this area of the Aragats slope. The construction is 90 cm north–south × 60 cm east–west. The boundaries of the construction are clearly defined by the edges of four vertical stone slabs which clearly constitute the chamber of the tomb. In between the slabs are small cobbles of tuff and basalt.

BURIAL CLUSTER 39

PLACE NUMBER	Ar/Ts.073.01	ILLUSTRATION	Pls. 17, 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,245
UTM EASTING	436859	LATITUDE	40° 37.987'
UTM NORTHING	4498298	LONGITUDE	44° 15.202'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

The center of this dispersed group of cromlechs is located 1.89 km east (bearing 101°) of Tsaghkahovit Fortress (map quadrant C5a).

TOPOGRAPHY

The cromlechs of Tsaghkahovit Burial Cluster 39 are distributed across a broad east-facing slope that drops into a small ravine with a small watercourse. Natural bedrock protrudes through the thin surface deposits at various locations along the slope.

GENERAL DESCRIPTION

Tsaghkahovit Burial Cluster 39 is quite large in terms of area, extending 100 m east–west × 90 m north–south. Most of the over thirty-eight cromlechs visible are of the stepped, spiral, and standard variety, composed of several concentric rings of medium-sized basalt blocks encircling large basalt capstones. Three mounded cromlechs (see feature 2) are visible on the western edge of the cluster.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a large standard cromlech 9.10 m in diameter. The outer circle is composed of medium and large, shaped basalt blocks. But no capstones are visible and the interior of the construction seems to dip slightly below the surrounding ground level. This may well indicate the burial was robbed, most likely in antiquity.

Feature 2 is a mounded cromlech, 8 m in diameter. The outer ring of stones is composed of medium, unshaped basalt blocks. The mound is composed of small basalt and tuff cobbles which raise the mound approximately 20 cm above the surrounding ground surface. At the center of the burial is a single large basalt block.

BURIAL CLUSTER 40

PLACE NUMBER	Ar/Ts.074.04	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,171
UTM EASTING	436773	LATITUDE	40° 37.644'
UTM NORTHING	4497665	LONGITUDE	44° 15.144'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 40 is a rather isolated cluster of burials. The nearest recorded site is Tsaghkahovit Burial Cluster 37, 0.42 km to the southwest (bearing 73° from Tsaghkahovit Burial Cluster 37 to Tsaghkahovit Burial Cluster 40) (map quadrant B5m).

TOPOGRAPHY

This small cluster was constructed at the base of a west-facing slope, in a narrow basin currently used for cultivation.

GENERAL DESCRIPTION

Only six cromlechs are visible in this cluster, although it is possible that some were destroyed by the cultivation in the basin. All the visible examples are small standard cromlechs varying from 2.5 to 3.5 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a standard cromlech 2.0 m in diameter east–west × 2.3 m north–south. It is built of a small number of unshaped, medium basalt blocks. The outer ring is only partially visible on the southern side while the capstone seems to consist of a single large block.

BURIAL CLUSTER 41

PLACE NUMBER	Ar/Ts.077.01	ILLUSTRATION	Pls. 19, 76c, 80c
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,146
UTM EASTING	436976	LATITUDE	40° 37.973'
UTM NORTHING	4498262	LONGITUDE	44° 15.275'
PERIODIZATION	Middle Bronze, Late Bronze/Iron I		

ASSOCIATION

Located 0.12 km southeast of Tsaghkahovit Burial Cluster 39 (bearing 103°), on the east bank of a small watercourse, Tsaghkahovit Burial Cluster 41 is 0.98 km south of the foot of Mount Aragats where it intersects the plain (map quadrant C5a).

TSAGHKAHOVIT QUADRANT (*cont.*)

TOPOGRAPHY

The burials of Tsaghkahovit Burial Cluster 41 are set at the base of a rubble-covered south-facing slope, on the northern edge of a small enclosed basin.

GENERAL DESCRIPTION

This cluster extends 110 m east–west × 55 m north–south and includes at least forty discrete burials. The burials in this cluster include at least three mounded cromlechs as well as standard and stepped cromlechs. The burials overall range in size from small cromlechs 2 m in diameter to medium-sized kurgans just under 9 m in diameter (see feature 1). It was within the area of Tsaghkahovit Burial Cluster 41 that we found Stela T1 (see feature 2 and entry for Tsaghkahovit Stela 1, below).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 (pl. 80c) is a moderately sized mounded cromlech, 8.0 m in diameter north–south × 8.8 m in diameter east–west. The cromlech rises 80 cm above the surrounding ground surface and is constructed of small basalt and tuff cobbles. On the southeastern arc of the construction the cobbles appear to have eroded slightly to reveal a segment of the underlying cromlech ring, built of unshaped basalt blocks. Atop the cromlech, offset slightly to the east, is a cluster of five or six small basalt blocks that seem to define the perimeter of a small rectangular socket. This socket is about 25 square cm — large enough to fit the base of Tsaghkahovit Stela 1, a phallus-shaped stone stela found lying adjacent.

Feature 2 (pl. 76c) is a highly discrete paved cromlech, 3.2 m in diameter. It is constructed of a single ring defining an interior space covered with what appear to be interlaced basalt blocks.

BURIAL CLUSTER 42

PLACE NUMBER	Ar/Ts.093.01	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,248
UTM EASTING	437383	LATITUDE	40° 37.756′
UTM NORTHING	4497867	LONGITUDE	44° 15.576′
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 42 was found 0.58 km southeast (bearing 133°) of Tsaghkahovit Burial Cluster 41, 1.36 km southwest (bearing 223°) of Korbulag village (map quadrant B5n).

TOPOGRAPHY

This cluster of burials lies on a gentle west-facing slope on the edge of a modern tree farm.

GENERAL DESCRIPTION

The cluster overall is not particularly expansive, covering approximately 30 m east–west × 30 m north–south. It is composed of twenty-two visible cromlechs of both standard and paved styles ranging in size from 2 to 5 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 43

PLACE NUMBER	Ar/Ts.083.01	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,270
UTM EASTING	436994	LATITUDE	40° 37.446'
UTM NORTHING	4497320	LONGITUDE	44° 15.298'
PERIODIZATION	Late Bronze/Iron I, Iron III(?)		

ASSOCIATION

Located 0.41 km southeast (bearing 147°) of Tsaghkahovit Burial Cluster 40 and just 0.22 km northwest (bearing 310°) of Tsaghkahovit Burial Cluster 44 (map quadrant B5m).

TOPOGRAPHY

The burials are constructed on the rubble-strewn southwest-facing slope of a small outcrop. A small watercourse trickles through a narrow gap below the slope.

GENERAL DESCRIPTION

The burials in this small cluster (no more than eight identifiable cromlechs) are primarily mounded with low piles of basalt and tuff cobbles encircled by small blocks of unworked basalt. The tombs are closely packed, covering an area less than 17 square m. Most are 2–4 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

Two small sherds were found on the surface, both classified as Group C attributable only to the broad swath of time from the Iron III period through the medieval era. Hence, while the morphology of the burials themselves suggests they date to the Late Bronze/Iron Age I, the surface remains do open the possibility that the tombs are part of a small group of cromlechs known from southern Caucasia built during the Iron III period.

BURIAL CLUSTER 44

PLACE NUMBER	Ar/Ts.089.01	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,282
UTM EASTING	437169	LATITUDE	40° 37.392'
UTM NORTHING	4497180	LONGITUDE	44° 15.427'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 44 was found 0.22 km southeast (bearing 129°) of Tsaghkahovit Burial Cluster 43 (map quadrant B5i).

TOPOGRAPHY

Tsaghkahovit Burial Cluster 44 is located within what is today a pine tree farm planted in well-ordered rows on a gentle west-facing slope of a low ridge.

GENERAL DESCRIPTION

The cromlechs in this cluster are in generally poor condition, most likely as a result of the plowing and other forms of earth moving associated with the planting of the trees. Numerous medium and large, shaped blocks now lie strewn on the surface but were likely once part of the cromlechs. The burials, as far as presently visible, number approximately twelve and range in size from 2.5 to 3.9 m in diameter.

TSAGHKACHOVIT QUADRANT (*cont.*)

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 includes a largely intact circumferential ring of medium and large, shaped basalt blocks 3.5 m in diameter north–south. A small basin, 8 cm in diameter, appears to have been cut into the large block on the western side of the ring.

BURIAL CLUSTER 45

PLACE NUMBER	Ar/Ts.093.02	ILLUSTRATION	Pls. 17, 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,202
UTM EASTING	437444	LATITUDE	40° 37.957'
UTM NORTHING	4498238	LONGITUDE	44° 15.616'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 0.49 km east (bearing 93°) of Tsaghkahovit Burial Cluster 41, on a continuation of the same east–west-oriented ridge, it is easy to think that Tsaghkahovit Burial Cluster 45 might well have represented the far eastern extent of that same burial cluster but for the intervening cultivated basins (map quadrant B5n).

TOPOGRAPHY

Tsaghkahovit Burial Cluster 45 occupies the southern and southwestern slopes of a tall ridge that envelopes the north edge of a series of small cultivated basins.

GENERAL DESCRIPTION

The cluster includes fourteen discrete cromlechs spread across an area 140 m east–west × 45 m north–south. The cromlechs are often submerged below the current ground surface, leaving only the large boulder capstones visible on the surface. Most are standard or spiral cromlechs and the majority employ tall boulders as capstones rather than flat stone blocks. The burials are generally quite small, ranging from 3 to 4 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 46

PLACE NUMBER	Ar/Ts.150.01	ILLUSTRATION	Pls. 17, 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,133
UTM EASTING	437268	LATITUDE	40° 37.990'
UTM NORTHING	4498301	LONGITUDE	44° 15.491'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 0.31 km east (bearing 83°) of Tsaghkahovit Burial Cluster 41, on the same east–west-oriented ridge which also hosts Tsaghkahovit Burial Cluster 45 0.19 km to the east (map quadrant C5a).

TOPOGRAPHY

The burials are built on the gentle slopes and summit of a small bedrock outcrop which extends northward from a larger east–west-oriented ridge.

GENERAL DESCRIPTION

This cluster of burials extends across a wide area roughly 60 m east–west \times 25 m north–south. The burials are all small standard cromlechs ranging from 1 to 3 m in diameter. Most are constructed with outer rings of small, shaped basalt blocks and one or two unworked basalt capstones. A unique architectural construction is also visible within the territory of the cemetery but does not seem associated with it (see entry for Tsaghkahovit Corral 1).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 lies at the top of the ridge. It is marked by a 9 \times 6 m area strewn with what look to be shaped basalt blocks. In the center of the feature is a swale surrounded by large, worked basalt blocks on three sides, a shape akin to a burial cist, but the exact nature of this construction was unclear. Its position within a cromlech cemetery suggests it may well have been a very large cromlech (judging from the size of the disturbed blocks).

BURIAL CLUSTER 47

PLACE NUMBER	Ar/Ts.155.01	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,166
UTM EASTING	437478	LATITUDE	40° 38.065'
UTM NORTHING	4498438	LONGITUDE	44° 15.640'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 47 is located 0.20 km north (bearing 10°) of Tsaghkahovit Burial Cluster 45, 0.90 km southwest (bearing 243°) of Korbulag village (map quadrant C5b).

TOPOGRAPHY

This small cluster of burials is set on the west-facing slope of a tall northeast-oriented ridge. Just adjacent, a small, circular basin shows signs of recent cultivation. Below the opposite slope is a small circular marsh.

GENERAL DESCRIPTION

A small burial cluster hosting no more than seven cromlechs, the tombs of Tsaghkahovit Burial Cluster 47 are all small to medium, standard cromlechs, 1.5–4.0 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a small standard cromlech, 1.5 m in diameter. It was constructed of small and medium, shaped basalt blocks set in a single ring around several small and one large central capstones.

BURIAL CLUSTER 48

PLACE NUMBER	Ar/Ts.150.04	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,038
UTM EASTING	436704	LATITUDE	40° 38.054'
UTM NORTHING	4498424	LONGITUDE	44° 15.090'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 48 is located 0.32 km east (bearing 93°) of Tsaghkahovit Burial Cluster 32 and 1.72 km east (bearing 98°) of Tsaghkahovit Fortress (map quadrant C5a).

TSAGHKAHOVIT QUADRANT (*cont.*)

TOPOGRAPHY

This cluster is set on the western edge of a triangular outcrop. Bedrock erupts through thin soil deposits all across the area, obscuring potential constructions.

GENERAL DESCRIPTION

This cluster of cromlechs hosts some of the larger burials in this rather crowded quadrant of the lower slopes of Mount Aragats. Overall, the cluster includes approximately eleven clearly definable burials.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a large stepped cromlech 7 m in diameter. The outer ring is constructed of large, worked basalt blocks set in close order. The inner ring is raised an average of 15 cm above the outer ring. It too is constructed of large, worked basalt blocks. The center of the tomb is defined by two central capstones, the largest of which is 2.2 m long \times 1.4 m wide while the other is 1.7 \times 0.7 m.

Feature 2 is a smaller, slightly elliptical, standard cromlech, 5 m in diameter. The single outer ring is constructed of large basalt blocks surrounding two large, worked capstones.

BURIAL CLUSTER 49

PLACE NUMBER	Ar/Ts.155.04	ILLUSTRATION	Pls. 18–19, 76d
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,120
UTM EASTING	436305	LATITUDE	40° 38.159'
UTM NORTHING	4498621	LONGITUDE	44° 14.807'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 49 is located 1.30 km east (bearing 92°) of Tsaghkahovit Fortress in an area adjacent to the ruined buildings of a Soviet-era construction (map quadrant C4d).

TOPOGRAPHY

This ruined cluster of cromlechs was built on the lowest reaches of Mount Aragats, where the final slope merges with the flatland of the Tsaghkahovit Plain.

GENERAL DESCRIPTION

Although most of the burials in this cluster appear to have been destroyed by extensive earth moving (likely associated either with the construction of the adjacent building or with the Soviet land amelioration program), one cromlech remains intact (feature 1) surrounded by the shaped blocks of destroyed cromlechs.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 (pl. 76d) is a large stepped cromlech constructed of three concentric rings of medium basalt blocks. The burial is 5.9 m in diameter east–west \times 5.7 m north–south. Each step rises an average of 15 cm above the surrounding ground surface. The interior of the tomb is marked by three capstones that cover an area roughly 2.5 square m.

BURIAL CLUSTER 50

PLACE NUMBER	Ar/Ts.152.02	ILLUSTRATION	Pl. 18
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,183
UTM EASTING	436104	LATITUDE	40° 38.124'
UTM NORTHING	4498546	LONGITUDE	44° 14.657'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Adjacent to Tsaghkahovit Burial Cluster 49 (0.21 km to the east, bearing 70°), Tsaghkahovit Burial Cluster 50 is located next to the same ruined Soviet-era buildings and has been similarly impacted by large-scale earth moving (map quadrant C4d).

TOPOGRAPHY

Like Tsaghkahovit Burial Cluster 49, this cluster of destroyed burials was built on the terminal slope of Mount Aragats where it merges with the Tsaghkahovit Plain.

GENERAL DESCRIPTION

Although a few discernible cromlechs remain in this area, most appear to have been destroyed, leaving a number of medium, worked basalt blocks strewn across the surface.

ASSOCIATED FEATURES AND MATERIALS

No surface materials despite the earth moving.

BURIAL CLUSTER 51

PLACE NUMBER	Ar/Ts.095.02	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,229
UTM EASTING	437396	LATITUDE	40° 37.595'
UTM NORTHING	4497526	LONGITUDE	44° 15.578'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 0.34 km south (bearing 178°) of Tsaghkahovit Burial Cluster 42, Tsaghkahovit Burial Cluster 51 extends southwest to embrace the area where Tsaghkahovit Stela 2 was recovered (map quadrant B5n).

TOPOGRAPHY

This cluster of burials occupies a wide basin that has been the site of considerable recent construction, as evidenced by the metal and concrete debris that lies scattered on the surface. As a result, a large number of the burials within the basin have been disturbed. However, part of the cluster continues up a low eroded ridge to the south where Tsaghkahovit Stela 2 was discovered.

GENERAL DESCRIPTION

The burials are widely dispersed across an area approximately 250 m north–south × 45 m east–west. A count of the number of visible burials suggests approximately sixteen, but many more appear to have been destroyed. The burials that remain articulated appear to be primarily standard cromlechs, ranging in size from 3.5 m × 13.0 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

TSAGHKAHOVIT QUADRANT (*cont.*)*BURIAL CLUSTER 52*

PLACE NUMBER	Ar/Ts.105.01	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,371
UTM EASTING	437570	LATITUDE	40° 37.060'
UTM NORTHING	4496578	LONGITUDE	44° 15.716'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 52 is one of the more isolated clusters on the southeastern edge of the Tsaghkahovit survey quadrant. It is located 0.37 km south (bearing 191°) of Tsaghkahovit Burial Cluster 53 (map quadrant B5j).

TOPOGRAPHY

The burials of Tsaghkahovit Burial Cluster 52 lie in a wet basin surrounded on all sides by low eroded ridges of weathered bedrock. The basin appears to have recently hosted cultivation activities, as well as possible construction associated with bringing water from the mountain slopes to the villages on the plain. The basin is surrounded by piles of stone that were likely created by field clearance and that likely came from the cromlechs of this cluster.

GENERAL DESCRIPTION

Due to the wet conditions in the basin, tall grasses obscure most of the burial construction stones (one of the few locations where visibility was poor due to the season during which the survey was conducted). The burials appear to be widely distributed, but this may be a result of local disturbance. The cromlechs are generally small, with diameters averaging approximately 3.5 m. Only standard cromlechs were observed in this cluster.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 53

PLACE NUMBER	Ar/Ts.107.02	ILLUSTRATION	Pls. 17, 81c
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,277
UTM EASTING	437677	LATITUDE	40° 37.254'
UTM NORTHING	4496937	LONGITUDE	44° 15.765'
PERIODIZATION	Medieval		

ASSOCIATION

Tsaghkahovit Burial Cluster 53 is the most southerly of a line of burial clusters (including Tsaghkahovit Burial Cluster 54–57) which mark the eastern boundary of the north Aragats necropolis, 3.15 km southeast (bearing 123°) of Tsaghkahovit Fortress (map quadrant B5j).

TOPOGRAPHY

Tsaghkahovit Burial Cluster 53 is set on the southern slope of a small rounded outcrop which rises above a wide, flat basin that appears to host a natural water-collecting pond and a small watercourse. The line of burial clusters, Tsaghkahovit Burial Clusters 53–57, follows closely the fluvial boundary between watersheds that drain northward into the Tsaghkahovit Plain and those that drain eastward toward the Kasakh River valley.

GENERAL DESCRIPTION

Very few burials are visible in this cluster (no more than three) and all are of a unique architectural style. They are spaced about 6 m apart and all oriented roughly east–west. All the burials are outlined by shaped, medium basalt blocks with smaller basalt cobbles filling in the interior space.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 (pl. 81c) is a burial installation measuring 9.0 m east–west × 4.3 m north–south. The outline, built of medium, shaped basalt blocks, is rectangular with a rounded eastern end. The interior space of the construction is paved with small basalt cobbles. The size and shape of the burial suggest that it dates to the first or early second millennium A.D.

BURIAL CLUSTER 54

PLACE NUMBER	Ar/Ts.105.03	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,295
UTM EASTING	437700	LATITUDE	40° 37.364′
UTM NORTHING	4497139	LONGITUDE	44° 15.805′
PERIODIZATION	Middle Bronze, Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 54 is one of a line of burial clusters (including Tsaghkahovit Burial Clusters 53, 55–57) which mark the eastern boundary of the north Aragats necropolis, 3.10 km southeast (bearing 120°) of Tsaghkahovit Fortress (map quadrant B5j).

TOPOGRAPHY

Tsaghkahovit Burial Cluster 54 lies on the northern slope of a generally east–west-oriented ridgeline of eroding bedrock.

GENERAL DESCRIPTION

This cluster includes a single kurgan (feature 1) as well as eleven small standard cromlechs (0.5–1.5 m in diameter). The burials are densely packed within an area approximately 40 m east–west × 25 m north–south.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is the single kurgan recorded in this otherwise nondescript burial cluster. The kurgan is 9.5 m in diameter and rises 8 cm above the surrounding ground surface. It is constructed of small basalt and tuff cobbles and appears to be well preserved, showing no signs of either erosion or looting.

BURIAL CLUSTER 55

PLACE NUMBER	Ar/Ts.105.04	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,256
UTM EASTING	437656	LATITUDE	40° 37.489′
UTM NORTHING	4497370	LONGITUDE	44° 15.794′
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 55 is one of a line of burial clusters (including Tsaghkahovit Burial Clusters 53–54, 56–57) which mark the eastern boundary of the north Aragats necropolis, 2.95 km southeast (bearing 116°) of Tsaghkahovit Fortress (map quadrant B5n).

TSAGHKAHOVIT QUADRANT (*cont.*)

TOPOGRAPHY

This cluster lies on a rock-strewn, southwest-facing slope of an eroding ridge which encloses the southeastern edge of a wide basin which has hosted recent construction activities (see entry for Tsaghkahovit Burial Cluster 51).

GENERAL DESCRIPTION

The burials in this cluster are identical to the cromlechs in Tsaghkahovit Burial Cluster 54. They include approximately thirteen small, standard cromlechs that range in size from 0.5 to 1.5 m in diameter. The cluster occupies a total area 50 m east–west × 15 m north–south.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 56

PLACE NUMBER	Ar/Ts.106.03	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,227
UTM EASTING	437735	LATITUDE	40° 37.665′
UTM NORTHING	4497715	LONGITUDE	44° 15.833′
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 56 is one of a line of burial clusters (including Tsaghkahovit Burial Cluster 53–55, 57) which mark the eastern boundary of the north Aragats necropolis, 2.89 km southeast (bearing 109°) of Tsaghkahovit Fortress (map quadrant B5n).

TOPOGRAPHY

Like Tsaghkahovit Burial Cluster 55 to the south, Tsaghkahovit Burial Cluster 56 lies on a southwest-facing slope of an eroding ridge. This ridge encloses the eastern edge of a wide basin which has hosted recent construction activities (see entry for Tsaghkahovit Burial Cluster 51).

GENERAL DESCRIPTION

A series of poorly defined cromlechs compose this small cluster of only six clearly identifiable burials. The area of roughly 35 m east–west × 20 m north–south also includes a number of highly suggestive rock formations, but because of the eroded bedrock and fallen boulders in the area it is difficult to assess whether they are part of mortuary constructions. The few clear burials are built of small, unworked basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 57

PLACE NUMBER	Ar/Ts.106.04	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,138
UTM EASTING	437791	LATITUDE	40° 37.842′
UTM NORTHING	4498015	LONGITUDE	44° 15.861′
PERIODIZATION	Late Bronze/Iron I, Iron III		

ASSOCIATION

Tsaghkahovit Burial Cluster 57 is one of a line of burial clusters (including Tsaghkahovit Burial Clusters 53–56) which mark the eastern boundary of the north Aragats necropolis, 2.86 km east (bearing 103°) of Tsaghkahovit Fortress (map quadrant B5n).

TOPOGRAPHY

The burials of Tsaghkahovit Burial Cluster 57 lie nestled at the base of a slightly curving south-facing slope, below a ridgetop punctuated by eroded bedrock.

GENERAL DESCRIPTION

This cluster of burials is composed of both cist-style burials (it is the easternmost cist cluster in the north Aragats survey area) and standard cromlechs. The cist burials appear to be constructed in a line at the base of the slope, extending 48 m east–west × 11 m north–south. The cists are quite small, ranging from 10 to 40 square cm, constructed of small cobbles. In total, a maximum of seven cists are visible; however, others may have been covered by soil eroding down the adjacent slope. Only three cromlechs were recorded in this cluster, all on the eastern edge of the site. They are all constructed of unworked small basalt blocks except for the capstones which were made of tall boulders that cover much of the interior of the burial and rise 35–50 cm above the ground surface. The cromlechs range from 2.5 m to 3.0 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 58

PLACE NUMBER	Ar/Ts.158.02	ILLUSTRATION	Pls. 19, 78b
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,061
UTM EASTING	436532	LATITUDE	40° 38.217'
UTM NORTHING	4498728	LONGITUDE	44° 14.962'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 1.53 km east (bearing 88°) of Tsaghkahovit Fortress, Tsaghkahovit Burial Cluster 58 is located on the south-, east-, and north-facing slopes of a ridge overlooking the same Soviet-era constructions as Tsaghkahovit Burial Cluster 49 (map quadrant C5a).

TOPOGRAPHY

Tsaghkahovit Burial Cluster 58 lies on the terminal slope of Mount Aragats, overlooking the edge of the Tsaghkahovit Plain. The slopes are interrupted by eroded bedrock outcrops and occasional large boulders. There are a few piles of rubble that appear to have been the result of earth-moving activities, suggesting some disturbance in the area.

GENERAL DESCRIPTION

This large cluster of cromlechs includes approximately forty-five burials; however, the local ground conditions suggest that more may well be obscured by eroding bedrock and fallen boulders. The cromlechs include spiral and standard types that rarely exceed 2.5–4.0 m in diameter. All are built of unworked basalt blocks. On the southern end of the cluster (ca. 180 m east–west × 114 m north–south) are a group of larger cromlechs reaching 6 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

TSAGHKAHOVIT QUADRANT (*cont.*)

Feature 1 (pl. 78b) is a small spiral cromlech 3.75 m in diameter east–west \times 3.70 m north–south. The construction is level with the ground surface. The edge of the cromlech appears to begin on the southern edge and then spiral in two concentric circles to a handful of medium-sized paving stones at the center of the tomb.

Feature 2 is located at the southern edge of the cluster where slightly larger cromlechs were recorded. This cromlech, 6.0 m in diameter, is slightly unusual. It is constructed of two concentric rings of medium basalt blocks set close together around the circumference of the circle. At the center of the burial are two large basalt capstones, but the area between the capstones and the outer ring is paved with small basalt cobbles.

BURIAL CLUSTER 59

PLACE NUMBER	Ar/Ts.161.03	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,122
UTM EASTING	436740	LATITUDE	40° 38.274'
UTM NORTHING	4498832	LONGITUDE	44° 15.114'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 59 lies on the opposite slope of the same ridge as Tsaghkahovit Burial Cluster 60, 0.28 km southeast of the road at the base of Mount Aragats as it turns toward the village of Sangyar (map quadrant C5a).

TOPOGRAPHY

The site lies on a steep west facing slope overlooking the southern edge of the Tsaghkahovit Plain, on the east bank of a small watercourse which drops onto the plain just below the burials.

GENERAL DESCRIPTION

Like Tsaghkahovit Burial Cluster 58, this cluster is quite large, with over fifty cromlechs spread across an area 200 m north–south \times 65 m east–west. Due to the steep slope, many of the cromlechs have their downhill portions exposed while the uphill portions remain submerged. Thus it is difficult to assess the range of sizes. However, of the visible burials, most appear to range in size between 3 and 5 m in diameter. Standard, mounded, and spiral cromlechs are visible, although most of the mounded burials appear to have suffered deflation as they show little sign of relief, only the remains of a cobble interior.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 60

PLACE NUMBER	Ar/Ts.161.04	ILLUSTRATION	Pls. 19, 78d
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,157
UTM EASTING	436914	LATITUDE	40° 38.267'
UTM NORTHING	4498817	LONGITUDE	44° 15.237'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 60 lies 0.17 km east (bearing 95°) of Tsaghkahovit Burial Cluster 59, on the opposite slope of the same north–south-oriented ridge (map quadrant C5a).

TOPOGRAPHY

This cluster lies on a gentle east facing slope and adjacent flat basin. The basin is 0.1 km across, although the majority of burials appear to congregate on its western margin.

GENERAL DESCRIPTION

This cluster of cromlechs is concentrated in a 35.0 × 50.0 m area on the slope but does extend into the adjacent basin where burials become more broadly spaced. Within the heart of the cluster burials tend to be evenly spaced 5–8 m apart and range from 4.5 to 7.0 m in diameter. Most of the burials are either standard or spiral cromlechs, although several stepped cromlechs were also noted. Estimates suggest that the central area was composed of over thirty-two cromlechs while four to six more were counted in the adjacent basin.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 (pl. 78d) combines elements of the stepped and paved cromlech styles. Located on the southern edge of the central concentration, it was constructed of two concentric rings of large, shaped blocks defining an outer circle 5.5 m in diameter. The inner step raised the interior portion of the burial 20 cm above the level of the outermost ring. The interior of the construction does not have a clearly identifiable capstone but instead seems to have been paved with medium, shaped basalt blocks.

Feature 2 lies near the northern limit of Tsaghkahovit Burial Cluster 60 and does not fit any of the typical burial construction types. The feature is rectangular in plan, with rounded corners. Oriented roughly north–south, it is 13 m long × 12 m wide. It is constructed solely of small basalt cobbles with no circumferential ring or other sign of worked stone. It is possible that the feature is an awkwardly shaped kurgan, but it may also be a simple pile of stones cleared from nearby fields.

BURIAL CLUSTER 61

PLACE NUMBER	AR/Ts.160.04	ILLUSTRATION	Pl. 19
UTM QUADRANT	39T	ELEVATION (M A.S.L.)	2,205
UTM EASTING	437491	LATITUDE	40° 38.204'
UTM NORTHING	4498695	LONGITUDE	44° 15.648'
PERIODIZATION	Late Bronze/Iron I, Iron III		

ASSOCIATION

Tsaghkahovit Burial Cluster 61 is located 2.49 km east (bearing 89°) of Tsaghkahovit Fortress, just west of Tsaghkahovit Settlement 1 (map quadrant C5b).

TOPOGRAPHY

The burials of this large and varied cluster extend across the slopes and summit of a north–south-oriented ridge. Both the east and west slopes drop gently to a small adjacent basin. The summit is broad and flat with eroding bedrock outcrops on its periphery.

GENERAL DESCRIPTION

Hosting a mixture of cist and cromlech burials, this large burial cluster includes an estimated sixteen cists and seventeen cromlechs on the western slope and approximately fifty additional cromlechs on the summit and eastern slope. The cists are 1–2 m on each side with rounded corners and are built of small basalt cobbles. The cromlechs are standard style and widely spaced around the flat ridgetop. They are generally 2.5–3.5 m in diameter, constructed of a single circle of small to medium, unworked basalt blocks around an interior marked by one to three medium capstones. Several cromlechs recorded within the territory of Tsaghkahovit Settlement 1 may mark the far eastern boundary of this sprawling cluster. On the northern edge of the cemetery one recently looted cromlech was recorded (feature 2).

TSAGHKAHOVIT QUADRANT (*cont.*)

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is not a single burial, but rather a cluster of cists packed tightly together. The result is a carpet of small stone cobbles 6×7 m, which includes an estimated seven distinct cists.

Feature 2 is a cromlech on the northern edge of the cluster that appears to have been recently looted. A small pile of back-dirt to the west of the tomb testifies that it was robbed only a few weeks prior to our arrival. The stone-lined chamber of the tomb has been exposed and measures 2.00 m (oriented north–south) \times 0.98 m. The chamber is defined by medium and large, worked basalt blocks.

BURIAL CLUSTER 62

PLACE NUMBER	Ar/Ts.159.06	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,195
UTM EASTING	437650	LATITUDE	40° 38.209'
UTM NORTHING	4498672	LONGITUDE	44° 15.757'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This small cluster of cromlechs is 0.94 km southeast (bearing 128°) of Tsaghkahovit Settlement 1 (map quadrant C5b).

TOPOGRAPHY

The burials of this cluster are set on the lower reaches of a highly eroded east facing slope adjacent to a small marsh or bog.

GENERAL DESCRIPTION

This cluster of standard and mounded cromlechs is poorly preserved, leaving only fragments of eight to twelve burials visible from the surface. Most appear to be moderately sized ranging from 3 to 5 m in diameter. One exception, however, is an extremely large mounded cromlech (feature 1).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is one of the largest burials recorded by the ArAGATS survey and it is in relative isolation, surrounded only by much smaller standard cromlechs. The burial is a mounded cromlech 38.9 m in diameter. The stones that define the outer ring of stones are very large, worked blocks, ranging from 1 to 2 m on their longest side. The interior of the burial is paved with small basalt and tuff cobbles. It is quite possible, perhaps even likely given its extraordinary size and relative isolation, that this burial was originally a very large kurgan which slowly lost the outer extremity of its cobble “breastplate” to reveal the underlying interior stone ring.

BURIAL CLUSTER 63

PLACE NUMBER	Ar/Ts.164.01	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,100
UTM EASTING	436521	LATITUDE	40° 38.335'
UTM NORTHING	4498950	LONGITUDE	44° 14.952'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Adjacent to Tsaghkahovit Isolated Architecture 1, this cluster is located just next to the road which hugs the foot of Mount Aragats before it turns northward toward Sangyar (map quadrant C5a).

TOPOGRAPHY

Located at the base of Mount Aragats' terminal slope, the area of the burial cluster has been considerably impacted by construction and by the adjacent road. It is possible that the cluster once continued onto the plain proper, but no sign of this is visible.

GENERAL DESCRIPTION

This cluster of approximately eight burials consists primarily of standard cromlechs that range from 2 to 5 m in diameter. They are constructed of small to medium, shaped blocks set in a ring around one to three larger capstones. Most are at least partially submerged. One unique burial is a dolmen style (feature 2).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a classic example of the standard cromlech. 5 m in diameter, it is constructed of large, shaped basalt blocks set in a single ring around two central capstones.

Feature 2 is a dolmen-style burial — one of the few recorded by the ArAGATS survey. While the two walls of the dolmen remain standing, the roof, or trilithon, is missing.

BURIAL CLUSTER 64

PLACE NUMBER	Ar/Ts.171.01	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,166
UTM EASTING	437849	LATITUDE	40° 38.346'
UTM NORTHING	4498954	LONGITUDE	44° 15.900'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 64 is located 0.59 km west (bearing 279°) of Korbulag village (map quadrant C5b).

TOPOGRAPHY

The burials were constructed on the upper slopes and summit of a tall, uneven ridge. Boulders lie strewn across the summit and the thin soil is ruptured by numerous bedrock outcrops.

GENERAL DESCRIPTION

The burials in this cluster include standard and bedrock-style cromlechs, the latter perhaps a consequence of the highly eroded terrain on the summit of the ridge. The burials range in size from 2 to 4 m, with most around 3 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

One small piece of retouched obsidian was found on the southern edge of this cluster.

TSAGHKAHOVIT QUADRANT (*cont.*)*BURIAL CLUSTER 65*

PLACE NUMBER	Ar/Ts.172.01	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,182
UTM EASTING	437870	LATITUDE	40° 38.387'
UTM NORTHING	4499033	LONGITUDE	44° 15.918'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 1.21 km west (bearing 286°) of Korbulag village, this cluster is 0.66 km due east of the turn in the road that follows the base of Aragats as it heads north to Sangyar (map quadrant C5a).

TOPOGRAPHY

These burials were built on a steep west-facing slope that directly overlooks the intersection of Mount Aragats and the Tsaghkahovit Plain.

GENERAL DESCRIPTION

The burials in this cluster are packed within an area approximately 55 m east–west × 22 m north–south. They are difficult to count but number at least eight. They are primarily standard cromlechs 3–4 m in diameter constructed of shaped and unworked basalt blocks surrounding one to three capstones.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 66

PLACE NUMBER	Ar/Ts.177.02	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,188
UTM EASTING	437551	LATITUDE	40° 38.527'
UTM NORTHING	4499292	LONGITUDE	44° 15.687'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 0.96 km northwest (bearing 298°) of Korbulag village, this cluster overlooks the cart path from Korbulag to the Sangyar road (map quadrant C5f).

TOPOGRAPHY

The burials in this group were found on a steep slope that drops rapidly from a tall southwest–northeast-oriented outcrop to a narrow defile below. Burials were not recorded either on the summit or in the ravine.

GENERAL DESCRIPTION

The area occupied by this cluster is approximately 112 m north–south × 95 m east–west. The approximately nine visible burials are broadly distributed across the area. All appear to be spiral or standard cromlechs (some with multiple concentric rings). Most are under 2 m in diameter; however, considerable erosion and alluviation make them very difficult to both count and measure.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 67

PLACE NUMBER	Ar/Ts.184.01	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,065
UTM EASTING	437109	LATITUDE	40° 38.612'
UTM NORTHING	4499453	LONGITUDE	44° 15.372'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster is located 2.25 km northeast (bearing 69°) of Tsaghkahovit Fortress, amid a group of northern sites that includes Tsaghkahovit Burial Clusters 68–70 (map quadrant C5e).

TOPOGRAPHY

The site is situated on the lower western slope of a small hill overlooking a cultivated field in the Tsaghkahovit Plain.

GENERAL DESCRIPTION

Only five to six cromlechs are visible in this cluster that occupies an area approximately 32 m east–west × 35 m north–south. Most appear to be between 2 and 3 m in diameter. A single unusual burial appears to be a dolmen-style construction (feature 1).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a dolmen-style burial cut into the surrounding exposed bedrock. A single capstone 1.62 m long × 1.18 m wide covers a chamber 2.20 m long × 0.97 m wide. The total area of the construction is approximately 4 square m. The western end of the chamber appears to have been formed by two large boulders rolled into place.

BURIAL CLUSTER 68

PLACE NUMBER	Ar/Ts.187.01	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,129
UTM EASTING	437535	LATITUDE	40° 38.660'
UTM NORTHING	4499538	LONGITUDE	44° 15.674'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster is located 0.25 km north (bearing 356°) of Tsaghkahovit Burial Cluster 66, amid a group of northern sites that includes Tsaghkahovit Burial Clusters 67, 69–70 (map quadrant C5f).

TOPOGRAPHY

The site is situated on the lower northwestern slope of a small hill overlooking a cultivated basin that extends, on its northwestern border, into the Tsaghkahovit Plain proper. The area is quite steep and cluttered with numerous boulders.

GENERAL DESCRIPTION

Only a handful of cromlechs are clearly visible in this cluster. Visible stones suggest they are between 1 and 2 m in diameter with shaped basalt blocks serving as both capstones and the outer ring. However, no cromlech is visible in its entirety so it is difficult to describe the constructions in greater detail.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

TSAGHKAHOVIT QUADRANT (*cont.*)*BURIAL CLUSTER 69*

PLACE NUMBER	Ar/Ts.194.01	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,163
UTM EASTING	437927	LATITUDE	40° 38.779'
UTM NORTHING	4499755	LONGITUDE	44° 15.950'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster is located 0.45 km northeast (bearing 61°) of Tsaghkahovit Burial Cluster 68, the northernmost in a group of sites that includes Tsaghkahovit Burial Clusters 67–68, 70 (map quadrant C5f).

TOPOGRAPHY

These burials were constructed on the lower northwestern slope of a steep hill overlooking the Tsaghkahovit Plain. The slope is cluttered with boulders.

GENERAL DESCRIPTION

The fifteen identified cromlechs in this cluster appear to be primarily paved cromlechs with a few small standard and mounded cromlechs interspersed among the others. All the cromlechs range between 1 and 3 m in diameter and are spread across an area approximately 35 m east–west × 40 m north–south.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 70

PLACE NUMBER	Ar/Ts.189.01	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,086
UTM EASTING	437223	LATITUDE	40° 38.707'
UTM NORTHING	4499641	LONGITUDE	44° 15.455'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster is located 0.22 km north (bearing 31°) of Tsaghkahovit Burial Cluster 67, the northernmost in a group of sites that includes Tsaghkahovit Burial Clusters 67–68 (map quadrant C5e).

TOPOGRAPHY

These burials were constructed on the lower northwestern edge of a steep hill. The entire slope is strewn with basalt boulders. An adjacent agricultural field may have cut into the territory of the cluster, disturbing several cromlechs.

GENERAL DESCRIPTION

Four paved cromlechs compose this small cluster. They are closely packed in an area approximately 12 m north–south × 15 m east–west. They are generally small, ranging from 2 to 4 m in diameter and constructed of shaped bedrock blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 71

PLACE NUMBER	Ar/Ts.205.01	ILLUSTRATION	Pls. 16, 18, 81d, 82
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,133
UTM EASTING	434491	LATITUDE	40° 37.930'
UTM NORTHING	4498196	LONGITUDE	44° 13.539'
PERIODIZATION	Medieval		

ASSOCIATION

This medieval burial cluster (pl. 81d) is located on the eastern edge of Tsaghkahovit village (map quadrant B4o).

TOPOGRAPHY

Tsaghkahovit Burial Cluster 71 is set at the base of a rocky terminal slope of Mount Aragats.

GENERAL DESCRIPTION

This roughly triangular-shaped cemetery includes over 200 burials set in parallel lines. Three types of gravestones are visible: 1) flat elongated rectilinear tomb slabs, some with a single rounded end, made of basalt, often inscribed with one or more crosses; 2) barrel vault tombstones made of red tuff, often inscribed with the swirling eternity symbol; and 3) rectangular tombstones, also made of tuff. The burials are all oriented northeast–southwest. The rectangular tomb slabs comprise the largest group with barrel vault and rectangular tombstones amounting to less than fifty of the total corpus.

ASSOCIATED FEATURES AND MATERIALS

A small sherd scatter found on the cemetery's eastern edge included thirty-six medieval sherds. A small salvage excavation in the cemetery by Hamazasp Khachatryan (Shirak Museum) in the mid-1990s recovered four glazed bowls dated to the ninth–tenth centuries A.D. (pl. 82).

BURIAL CLUSTER 72

PLACE NUMBER	Ar/Ts.206.01	ILLUSTRATION	Figs. 43–44; Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,105
UTM EASTING	434661	LATITUDE	40° 37.889'
UTM NORTHING	4498137	LONGITUDE	44° 13.643'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Only 0.63 km southwest (bearing 213°) of Tsaghkahovit Fortress, this cluster of burials is located 0.16 km southeast (bearing 117°) of Tsaghkahovit Burial Cluster 71 (map quadrant B4o).

TOPOGRAPHY

The burials in this cluster are dispersed atop a northwest–southeast-oriented ridge strewn with large boulders which overlooks the village of Tsaghkahovit. There is evidence of considerable disturbance in the area.

GENERAL DESCRIPTION

Nineteen cromlechs were clearly identified in this cluster and all nineteen had been robbed. Broken ceramics litter the site, as do large boulders that were likely once capstones. The cromlechs ranged from 4.0 to 6.5 m in diameter and were primarily constructed of worked basalt blocks set around a stone-lined chamber.

TSAGHKAHOVIT QUADRANT (*cont.*)

ASSOCIATED FEATURES AND MATERIALS

The surface materials found scattered in the area included 119 sherds from highly diagnostic Late Bronze III-phase (Lchashen-Metsamor III) vessels. These were likely part of several adjacent tombs which were smashed during looting (figs. 43–44).

Feature 1 is a cromlech 6.5 m in diameter (the largest in the cluster), constructed of large, lightly worked basalt blocks. The interior chamber, now visible due to looting, is 1.5 m long \times 0.4 m wide and built of dressed basalt slabs.

Figure 43. Materials from Tsaghkahovit Burial Cluster 72

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>	<i>i</i>
<i>Locus</i>	Burial Cluster 72	Burial Cluster 72	Burial Cluster 72	Burial Cluster 72	Burial Cluster 72	Burial Cluster 72	Burial Cluster 72	Burial Cluster 72	Burial Cluster 72
<i>Sherd No.</i>	1	9	7	29	2	8	17	3	16
<i>Period</i>	Late Bronze III–Iron Ia	Late Bronze III–Iron Ia	Late Bronze III–Iron Ia	Late Bronze III–Iron Ia	Late Bronze III–Iron Ia	Late Bronze III–Iron Ia	Late Bronze III–Iron Ia	Late Bronze III–Iron Ia	Late Bronze III–Iron Ia
<i>Fragment</i>	Rim–Body	Rim–Body	Rim–Body	Rim–Body	Rim–Body	Rim–Body	Rim–Body	Rim–Body	Rim–Body
<i>Form</i>	Bowl	Bowl	Bowl	Bowl	Bowl	Bowl	Cup/Bowl	Bowl	Bowl
<i>Rim Variant</i>	Round Everted	Round Everted	Round Flared	Straight Everted	Rounded Ledge	Rounded Ledge	Straight Everted	Round Everted	Round Everted
<i>Exterior Color</i>	Brown	Brown	Brown	Orange	Gray	Brown	Gray	Orange	Brown
<i>Interior Color</i>	Brown	Orange	Buff	Orange	Brown	Brown	Gray	Brown	Brown
<i>Fabric Color</i>	Brown	Brown	Brown	Gray	Brown	Brown	Gray	Brown	Brown
<i>Inclusions</i>	Medium	Medium	Medium	Coarse	Coarse	Medium	Medium	Medium	Medium
<i>Slip</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Surface Treatment</i>	Polished	Polished	Smoothed	Smoothed	Smoothed	Polished	Smoothed	Polished	Polished
<i>Rim Diameter / Percent</i>	14.0 cm / 23%	13.0 cm / 11%	14.0 cm / 10%	11.0 cm / 9%	14.0 cm / 15%	15.0 cm / 8%	9.0 cm / 17%	13.0 cm / 6%	23.0 cm / 9%

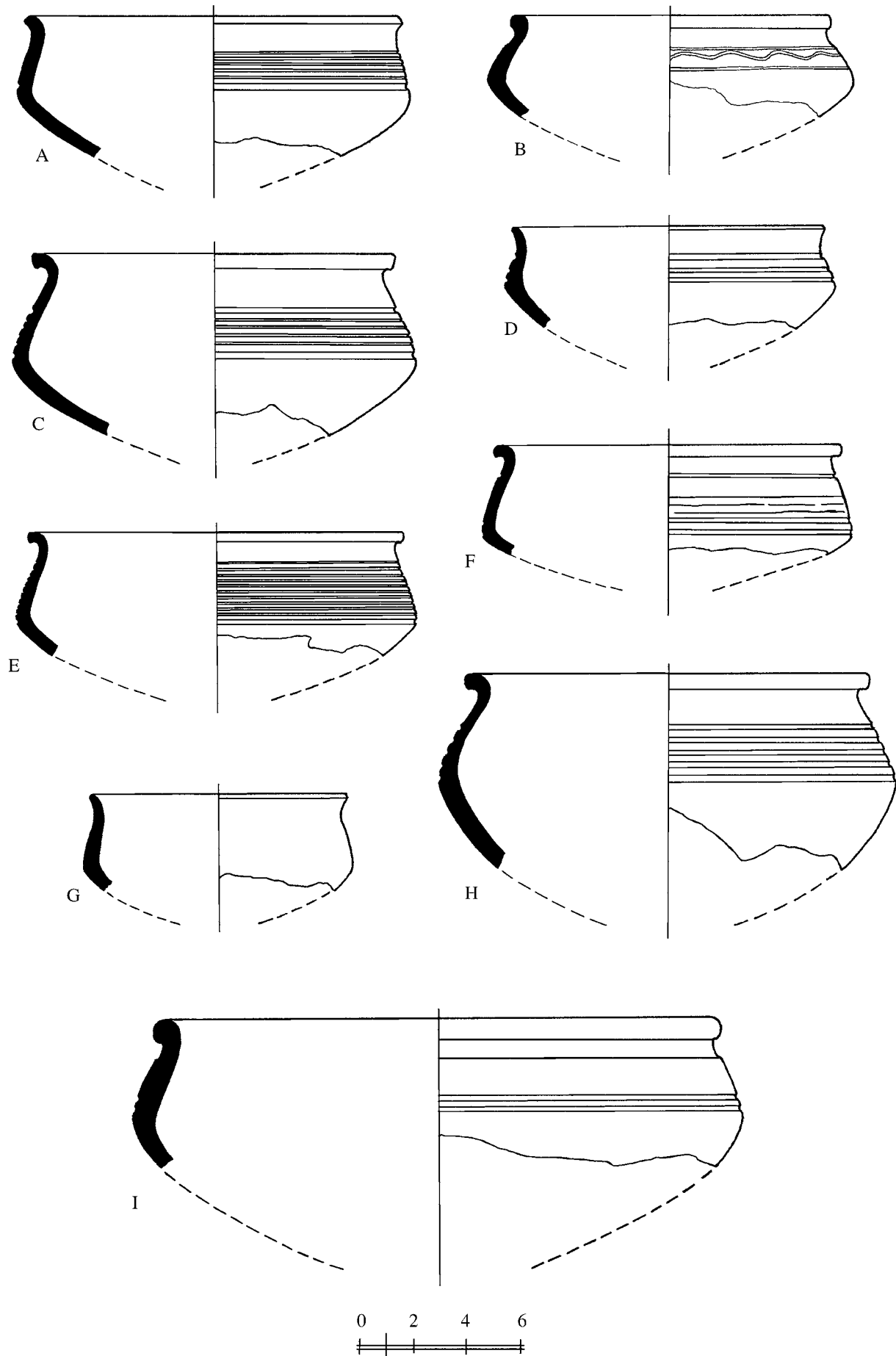


Figure 43. Materials from Tsaghkahovit Burial Cluster 72

Figure 44. Surface Materials from Tsaghkahovit Burial Cluster 72

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>	<i>i</i>	<i>j</i>
<i>Locus</i>	Burial Cluster 72	Burial Cluster 72	Burial Cluster 72	Burial Cluster 72	Burial Cluster 72	Burial Cluster 72	Burial Cluster 72	Burial Cluster 72	Burial Cluster 72	Burial Cluster 72
<i>Sherd No.</i>	11	26	5	23	27	13	35	28	37	36
<i>Period</i>	Late Bronze III –Iron Ia	Late Bronze III –Iron Ia	Late Bronze III –Iron Ia	Late Bronze III –Iron Ia	Late Bronze III –Iron Ia	Late Bronze III –Iron Ia	Late Bronze III –Iron Ia	Late Bronze III –Iron Ia	Late Bronze III –Iron Ia	Late Bronze III –Iron Ia
<i>Fragment</i>	Rim	Rim	Rim	Rim	Shoulder–Body	Rim	Rim	Rim	Base	Base
<i>Form</i>	Closed Jar	Bowl	Jar	Bowl	Closed Jar	Closed Jar	Closed Jar	Bowl	—	Jar
<i>Rim Variant</i>	Ledge	Pointed	Rounded Everted	Flat	—	Rounded Everted	Pointed Everted	Pointed	—	—
<i>Exterior Color</i>	Gray	Gray	Buff	Orange	Brown	Buff	Orange	Brown	Gray	Buff
<i>Interior Color</i>	Brown	Gray	Brown	Orange	Brown	Orange	Gray	Gray	Gray	Buff
<i>Fabric Color</i>	Brown	Gray	Brown	Gray	Gray	Gray	Brown	Brown	Gray	Gray
<i>Inclusions</i>	Medium	Medium	Medium	Coarse	Medium	Coarse	Coarse	Medium–Coarse	Medium	Medium
<i>Slip</i>	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes
<i>Surface Treatment</i>	Polished	Polished	Polished	Smoothed	Polished	Smoothed	Smoothed	Polished	Polished	Polished
<i>Rim Diameter / Percent</i>	13.0 cm / 16%	17.0 cm / 6%	12.0 cm / 8%	14.5 cm / 7%	—	11.0 cm / 6%	10.0 cm / 8%	N/A	—	—

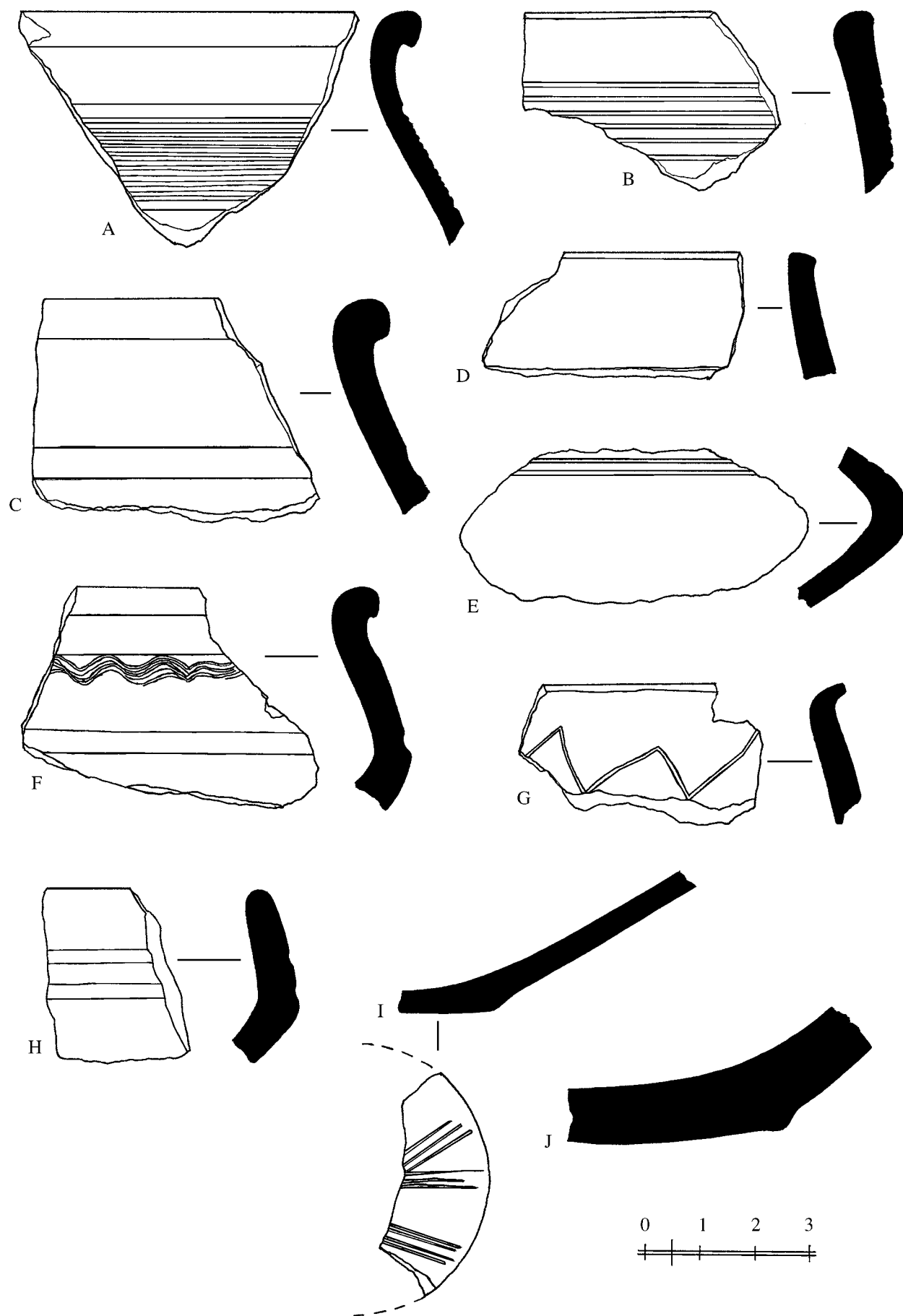


Figure 44. Surface Materials from Tsaghkahovit Burial Cluster 72

TSAGHKAHOVIT QUADRANT (*cont.*)*BURIAL CLUSTER 73*

PLACE NUMBER	Ar/Ts.217.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,190
UTM EASTING	434593	LATITUDE	40° 37.727'
UTM NORTHING	4497870	LONGITUDE	44° 13.573'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 73 is located 0.89 km southwest (bearing 207°) of Tsaghkahovit Fortress (map quadrant B4o).

TOPOGRAPHY

The burials of this cluster are set on a gentle northeast-facing slope, above the lower reaches of Tsaghkahovit Canal 2.

GENERAL DESCRIPTION

Tsaghkahovit Burial Cluster 73 extends across an area approximately 60 m east–west × 50 m north–south. The nine clearly definable cromlechs that make up the cluster are broadly spaced. Most cromlechs range between 3.0 and 4.5 m in diameter and include mounded, bedrock, and standard cromlech varieties.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a good example of the bedrock-style cromlech, 3.7 m in diameter. The southern limit of the outer ring is composed in large measure by a carved slab of exposed basalt bedrock. Cut into this bedrock is a small basin. The remainder of the cromlech is built of medium, unworked basalt blocks. The capstone is not visible.

BURIAL CLUSTER 74

PLACE NUMBER	Ar/Ts.222.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,146
UTM EASTING	434188	LATITUDE	40° 37.680'
UTM NORTHING	4497745	LONGITUDE	44° 13.283'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 1.23 km southwest (bearing 222°) of Tsaghkahovit Fortress, this cluster is only 0.24 km southeast of Tsaghkahovit village. It occupies the northwestern slope of the natural outcrop known locally as Megara Tepe, which it shares with Tsaghkahovit Burial Clusters 75 and 76 (map quadrant B4n).

TOPOGRAPHY

These burials were found on the western and northwestern flank of the same hill whose eastern summit hosts Tsaghkahovit Burial Cluster 75. Although a large cultivated field now lies at the base of the western side of the hill, a single cromlech recorded in a small patch of untilled land suggests the cemetery may have originally spread into the basin below. Some evidence of disturbance related to construction activities was noted toward the lower northwestern slope, adjacent to the village, but this may be related to the dirt road that hugs the base of the hill. The slope is strewn with large basalt boulders.

GENERAL DESCRIPTION

Tsaghkahovit Burial Cluster 74 occupies a sprawling area approximately 255 m north–south \times 140 m east–west. They are generally standard cromlechs 1.5 to 4.0 m in diameter. Capstones are not visible on several constructions, but it may be that they are simply submerged rather than removed. There is no evidence of looting despite the local disturbance caused by vehicle traffic. An estimated eighty-five cromlechs are visible in this area.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is an irregular, oval-shaped stepped cromlech. Measuring 7.5 m in diameter east–west \times 4.5 m north–south, the cromlech includes two concentric rings of medium and large, lightly worked basalt stones positioned around two large basalt slab capstones.

BURIAL CLUSTER 75

PLACE NUMBER	Ar/Ts.228.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	39T	ELEVATION (M A.S.L.)	2,184
UTM EASTING	434604	LATITUDE	40° 37.556'
UTM NORTHING	4497523	LONGITUDE	44° 13.607'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 75 is located 1.21 km southwest (bearing 199°) of Tsaghkahovit Fortress, 0.57 km southeast of Tsaghkahovit village. It occupies the eastern slope of the natural outcrop known locally as Megara Tepe, which it shares with Tsaghkahovit Burial Clusters 74 and 76 (map quadrant B4o).

TOPOGRAPHY

The burials are primarily clustered at the summit of a tall southwest–northeast-oriented ridge which affords excellent views of both Tsaghkahovit Fortress and village. The ridgetop itself is rather narrow and the burials spill over onto the upper slopes to the east, south, and north.

GENERAL DESCRIPTION

This large cluster extends across an area approximately 300 m east–west \times 200 m north–south. A large number of boulders and erupting natural rock make estimates of the burial population difficult, but at least ninety cromlechs were recorded, many quite large, ranging from 4.5 to 10.0 m in diameter. There was a wide variety of cromlechs noted in the area, including standard, paved, spiral, mounded, and bedrock styles.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a typical spiral cromlech with an outer ring constructed of medium and large, lightly worked basalt blocks set in two concentric rings that spiral inward. This spiral culminates in two capstones made of large basalt slabs.

Feature 2 is a unique variation on the standard cromlech. Measuring 10 m in diameter, the outer ring is built of lightly worked basalt blocks. An interior space of paved basalt yields at the center to four large boulders which presumably served as capstones. The boulders rise a maximum of 60 cm above the surrounding ground surface.

TSAGHKAHOVIT QUADRANT (*cont.*)*BURIAL CLUSTER 76*

PLACE NUMBER	Ar/Ts.235.02	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,205
UTM EASTING	434344	LATITUDE	40° 37.444'
UTM NORTHING	4497316	LONGITUDE	44° 13.423'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 1.46 km southwest (bearing 203°) of Tsaghkahovit Fortress, this cluster occupies the southern slope of the natural outcrop known locally as Megara Tepe, which it shares with Tsaghkahovit Burial Clusters 74 and 75 (map quadrant B4o).

TOPOGRAPHY

The burials are interspersed among numerous jagged outcroppings of bedrock on the steep slope of Megara Tepe. A small natural cave in the hillside appears to have been worked and extended and the floor is littered with modern trash.

GENERAL DESCRIPTION

Like Tsaghkahovit Burial Clusters 74 and 75, this cluster is also quite large, extending across an area approximately 135 m east–west × 200 m north–south. It is impossible to estimate accurately the number of cromlechs as many appear to be bedrock- and dolmen-style constructions that incorporate local outcrops. A conservative estimate is approximately sixty. In addition to bedrock-style burials, there are also standard, paved, and spiral cromlechs. The recorded burials are quite large, ranging from 4 to 8 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a well-preserved cromlech that appears to be a dolmen-style construction. Measuring 5 m in diameter, the outer ring is constructed of large, lightly worked basalt blocks. A single very large flat basalt slab covers the construction, resting on carved bedrock. The entrance to the tomb, blocked by a single basalt block, appears to lead underneath this capstone.

BURIAL CLUSTER 77

PLACE NUMBER	Ar/Ts.243.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,261
UTM EASTING	434531	LATITUDE	40° 37.155'
UTM NORTHING	4496779	LONGITUDE	44° 13.559'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 77 is a rather isolated cluster of burials, 1.94 km southwest (bearing 194°) of Tsaghkahovit Fortress (map quadrant B4k).

TOPOGRAPHY

The burials are set on a low extended hill riddled with eroding bedrock and large boulders. The hill is oriented roughly northwest–southeast and the burials are concentrated on the eastern slope.

GENERAL DESCRIPTION

These dispersed cromlechs occupy the entirety of a sprawling hillside, roughly 250 m northwest–southeast × 60 m southwest–northeast. Approximately thirty-eight cromlechs are clearly visible, but others are likely obscured by erosion and the boulders which dot the hillside. Most of the burials are small to medium standard cromlechs with simple capstones surrounded by medium, unworked basalt blocks. Three cromlechs on the northeastern edge of the cluster have large rounded boulders as central capstones instead of basalt slabs.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 78

PLACE NUMBER	Ar/Ts.240.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,135
UTM EASTING	433842	LATITUDE	40° 37.193'
UTM NORTHING	4496871	LONGITUDE	44° 13.066'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 78 is located 0.69 km west (bearing 278°) of Tsaghkahovit Burial Cluster 77 and 0.63 km southwest of Tsaghkahovit Burial Cluster 76 (map quadrant B4j).

TOPOGRAPHY

On the southern border of the same cultivated field that lies at the base of Tsaghkahovit Burial Cluster 76, this cluster of cromlechs lies on the summit and northeast slope of a low, highly eroded hill.

GENERAL DESCRIPTION

The burials in this cluster are tightly packed within an area approximately 65 m north–south × 40 m east–west. The cromlechs here are extremely difficult to count because they are packed so tightly, but a reasonable estimate is no more than forty burials. All appear to be standard in style, but none is completely visible.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 79

PLACE NUMBER	Ar/Ts.240.02	ILLUSTRATION	Pls. 16, 77d
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,130
UTM EASTING	433373	LATITUDE	40° 37.217'
UTM NORTHING	4496912	LONGITUDE	44° 12.747'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 79 is located near the eastern border of a modern artillery range, 1.23 km southwest (bearing 209°) of Tsaghkahovit village (map quadrant B4j).

TOPOGRAPHY

This cluster is set on a long, low, fairly flat finger of eroding bedrock that runs approximately north–south between two cultivated fields. The overgrowth in the area is relatively high compared to other areas, perhaps

TSAGHKAHOVIT QUADRANT (*cont.*)

due to the lack of flocks brought to pasture here, and the hill is dotted with numerous outcrops of the underlying bedrock.

GENERAL DESCRIPTION

Several of the cromlechs in this cluster appear to have been disturbed, as capstones lie askew and tall weeds grow where one would expect a chamber. At least eight cromlechs were noted as disturbed and, although hard to distinguish, it is likely there are several more cromlechs in the area. All those recorded were either paved or standard cromlechs roughly 3.5 to 5.0 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials despite evidence of disturbance.

Feature 1 (pl. 77d) is an undisturbed standard cromlech 4.6 m in diameter and constructed of medium and large basalt blocks.

BURIAL CLUSTER 80

PLACE NUMBER	Ar/Ts.281.03	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,372
UTM EASTING	434208	LATITUDE	40° 36.847'
UTM NORTHING	4496212	LONGITUDE	44° 73.332'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 0.23 km southwest (bearing 244°) of Tsaghkahovit Burial Cluster 90, this cluster of cromlechs was found just one ridgeline west of Tsaghkahovit Corral 4 (map quadrant B4f).

TOPOGRAPHY

The burials of Tsaghkahovit Burial Cluster 80 are set at the base of a low north–south-oriented outcrop, where it slopes into a small flat basin.

GENERAL DESCRIPTION

This small burial cluster (no more than twelve cromlechs) is rather unique in this area given that most of its neighboring mortuary sites tend to be sprawling, dispersed constructions. The burials are bedrock- and standard-style cromlechs packed within a discrete area approximately 30 m east–west × 50 m north–south.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a medium-sized, bedrock cromlech. 3.5 m in diameter, the burial was built of medium, shaped basalt blocks set in an evenly proportioned outer ring. One large stone within this ring appears to be worked bedrock. The interior of the burial is submerged and thus the capstones are not visible.

BURIAL CLUSTER 81

PLACE NUMBER	Ar/Ts.250.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,128
UTM EASTING	434049	LATITUDE	40° 37.105'
UTM NORTHING	4496660	LONGITUDE	44° 13.230'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 81 was found 0.30 km southeast (bearing 136°) of Tsaghkahovit Burial Cluster 78 (map quadrant B4j).

TOPOGRAPHY

The burials of this cluster are set on a gentle east-facing slope between two highly eroded hills.

GENERAL DESCRIPTION

In an area approximately 155 m east–west × 160 m north–south, the estimated sixty standard cromlechs that make up this cluster are spread across the hill slope in small subgroups of varying density. The densest concentrations are found on the southeastern third of the slope. However, these subgroups do not present distinctions in cromlech style or construction. All the burials recorded in Tsaghkahovit Burial Cluster 81 range between 2.5 and 4.0 m in diameter and are constructed of medium, lightly worked basalt blocks. Some bedrock-style cromlechs visible near the upper slope appear to incorporate weathered outcrops into the design of the outer ring. However, this may also be the result of local taphonomic processes.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 82

PLACE NUMBER	Ar/Ts.250.03	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,171
UTM EASTING	433556	LATITUDE	40° 37.133′
UTM NORTHING	4496745	LONGITUDE	44° 12.878′
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 82 is located 0.28 km southeast (bearing 132°) of Tsaghkahovit Burial Cluster 79, 1.16 km south of Tsaghkahovit village (map quadrant B4j).

TOPOGRAPHY

The burials of Tsaghkahovit Burial Cluster 82 are located on a low, eroded rise, an offshoot of the larger ridge that hosts Tsaghkahovit Isolated Architecture 7.

GENERAL DESCRIPTION

Burials within Tsaghkahovit Burial Cluster 82 are not numerous, numbering no more than thirteen. They are distributed in a northwest–southeast-oriented line roughly 65 m long × 20 m wide. The burials are primarily standard cromlechs, 2.5 m in diameter. But two cobble-style cromlechs were also recorded.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a cobble-style cromlech, 2 m in diameter, built solely of tuff and basalt cobbles. The center of the construction is not mounded, like a kurgan, but rather appears to have been left intentionally flat, if not slightly concave.

TSAGHKAHOVIT QUADRANT (*cont.*)*BURIAL CLUSTER 83*

PLACE NUMBER	Ar/Ts.255.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,218
UTM EASTING	433375	LATITUDE	40° 37.061'
UTM NORTHING	4496615	LONGITUDE	44° 12.741'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 83 is located 0.22 km southwest (bearing 234°) of Tsaghkahovit Burial Cluster 82 and 2.62 km southwest (bearing 218°) of Tsaghkahovit Fortress (map quadrant B4j).

TOPOGRAPHY

The burials in this cluster are spread along the western edge of a small basin hemmed in on all sides by low, eroded ridges sprinkled with eroded bedrock boulders.

GENERAL DESCRIPTION

Tsaghkahovit Burial Cluster 83 is a rather diffuse cluster of small and medium cromlechs that range from 2.5 to 4.5 m in diameter. Only standard cromlechs were recorded in this area (ca. 68 × 34 m).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 84

PLACE NUMBER	Ar/Ts.253.03	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,299
UTM EASTING	433788	LATITUDE	40° 37.057'
UTM NORTHING	4496598	LONGITUDE	44° 13.052'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 84 is located on the western slope of the same hill that hosts Tsaghkahovit Isolated Architecture 7, 1.39 km south (bearing 188°) of Tsaghkahovit village (map quadrant B4j).

TOPOGRAPHY

These burials occupy a rocky western slope of a north–south-oriented ridge. The slope is littered with erupting outcrops of bedrock and boulders. At its base, the slope drops into a narrow ravine which channels a small watercourse.

GENERAL DESCRIPTION

Distributed across an area 65 m north–south × 45 m east–west, the cromlechs in this cemetery are exclusively standard cromlechs and appear to number no more than fifteen. However, others may be obscured by boulders or eroding bedrock.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 85

PLACE NUMBER	Ar/Ts.270.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,158
UTM EASTING	434162	LATITUDE	40° 37.024'
UTM NORTHING	4496540	LONGITUDE	44° 13.299'
PERIODIZATION	Middle Bronze/Late Bronze		

ASSOCIATION

This group of kurgans is located 1.70 km south (bearing 188°) of Tsaghkahovit Fortress, one ridgeline west of Tsaghkahovit Canal 2, behind an abandoned Soviet-era building (map quadrant B4k).

TOPOGRAPHY

The kurgans of this cluster are located on slightly inclined terrain, near the base of a west-facing slope.

GENERAL DESCRIPTION

Just three kurgans make up this cluster. Initial identification was uncertain given the adjacent construction and irregular shape of one burial. However, further inspection does support listing the features as kurgans.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a kurgan 10 m in diameter constructed of a low mound of basalt and tuff cobbles piled 80 cm above the contemporary ground surface.

Feature 2 is more elliptical in shape, 9.5 m downslope (roughly southwest–northeast) and 7.7 m across. This feature is also constructed of tuff and basalt cobbles. Despite the disturbance which presumably is responsible for the kurgan's irregular shape, there are no surface indications of a stone ring underneath the pile of stones.

BURIAL CLUSTER 86

PLACE NUMBER	Ar/Ts.272.01	ILLUSTRATION	Pls. 16, 74a
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,324
UTM EASTING	434355	LATITUDE	40° 36.998'
UTM NORTHING	4496481	LONGITUDE	44° 13.440'
PERIODIZATION	Middle Bronze/Late Bronze		

ASSOCIATION

This sprawling cluster of cromlechs (pl. 74a) is located 0.35 km southeast (bearing 120°) of Tsaghkahovit Burial Cluster 81 (map quadrant B4k).

TOPOGRAPHY

Tsaghkahovit Burial Cluster 86 occupies an extended area along the western bank of a small watercourse. The terrain is relatively flat, sloping slightly eastward toward the drainage, except in the northern quarter of the cluster where the burials ascend the south-facing slope of a small outcrop.

GENERAL DESCRIPTION

Like many of the clusters in this area of the Tsaghkahovit survey quadrant, Tsaghkahovit Burial Cluster 86 extends across a large area, approximately 200 m north–south × 180 m east–west. We estimate approximately sixty cromlechs dispersed across the area. Standard and spiral cromlechs were recorded in the area. Many were visible only as rings of stone as the interiors were submerged beneath layers of sod. The cromlechs range between 3 and 5 m in diameter and are built of basalt blocks.

TSAGHKAHOVIT QUADRANT (*cont.*)

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a fairly typical standard cromlech for this cluster. 5.5 m in diameter, it is constructed of small and medium, shaped basalt blocks. Only part of one flat capstone, 1 m in length, is visible, as much of the interior is submerged beneath a layer of sod.

BURIAL CLUSTER 87

PLACE NUMBER	Ar/Ts.273.02	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,303
UTM EASTING	434070	LATITUDE	40° 36.969'
UTM NORTHING	4496441	LONGITUDE	44° 13.231'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 87 was found on the southeastern slope of the same ridge that hosts Tsaghkahovit Burial Cluster 84, 0.32 km to the northwest (bearing 299°), across a small valley from Tsaghkahovit Burial Cluster 86 to the east (map quadrant B4j).

TOPOGRAPHY

This cluster of cromlechs is set on a crescent-shaped slope that rises to an eroded ridgeline running roughly north–south.

GENERAL DESCRIPTION

While many of the more dispersed burial clusters in the area have been restricted to small or medium cromlechs, this more compact cluster (ca. 75 × 65 m) hosts a series of larger cromlechs that range from 6 to 13 m in diameter. All are built of medium to large, lightly worked, basalt blocks surrounding flat basalt slab capstones. Standard, paved, and stepped cromlechs were recorded in this cluster. Toward the southern limit of the cluster the burials appear to get smaller, with bedrock and standard cromlechs ranging from 2.5 to 4.0 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a large stepped cromlech, 9 m in diameter north–south × 13 m east–west. Circumscribed within the outermost ring is a second, slightly raised (25 cm) ring surrounding several large capstones which are only partially visible. The inner and outer rings are separated by a bare area 1 m wide now visible only as a ring of sod.

Feature 2 is an unusually elongated stepped cromlech. Measuring 9 m long but only 5 m wide, the outer elliptical ring also circumscribes an inner, raised ring that surrounds the large central capstone slabs. The burial is constructed of large, lightly worked basalt blocks.

BURIAL CLUSTER 88

PLACE NUMBER	Ar/Ts.273.04	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,233
UTM EASTING	433643	LATITUDE	40° 37.006'
UTM NORTHING	4496507	LONGITUDE	44° 12.925'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 88 is located 0.17 km southwest (bearing 198°) of Tsaghkahovit Burial Cluster 84, across a small ravine with a trickling watercourse (map quadrant B4j).

TOPOGRAPHY

The burials are focused in an overgrown area near the base of a rocky slope, on the west bank of a small ravine and watercourse.

GENERAL DESCRIPTION

Approximately twenty-four burials were noted in this cluster. They vary widely in size ranging from 2 to 8 m in diameter, but the heavy overgrowth makes it difficult to discriminate different construction styles (most appear to be standard or mounded cromlechs).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a small standard cromlech, 2.3 m in diameter circumscribed by just four large, lightly worked basalt blocks. The capstones are submerged under the sod and overgrowth.

Feature 2 is an elliptical mounded cromlech, 8 m north–south × 5 m east–west. The interior mound appears to be made only of earth (no visible cobbles). The cromlech rests on an inclined slope and so while the interior mound rises a remarkable 1 m above the lower ground surface, it merges into the slope of the hillside at the upper end.

Feature 3 was found on the northwestern edge of the cluster. It is a more typical mounded cromlech, encircled by a ring 6 m in diameter, with a central mound constructed of tuff and basalt cobbles.

BURIAL CLUSTER 89

PLACE NUMBER	Ar/Ts.277.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,232
UTM EASTING	433390	LATITUDE	40° 36.912'
UTM NORTHING	4496341	LONGITUDE	44° 12.753'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 0.27 km south (bearing 183°) of Tsaghkahovit Burial Cluster 83, Tsaghkahovit Burial Cluster 89 is one of three clusters (along with Tsaghkahovit Burial Clusters 83 and 79) that make up the western border of the Tsaghkahovit survey quadrant clusters (map quadrant B4j).

TOPOGRAPHY

Tsaghkahovit Burial Cluster 89 is located in a unique triangular saddle outlined by the intersection of three bedrock outcrops. The western border is formed by the same ridge whose northeastern slope hosts Tsaghkahovit Burial Cluster 83 while the other two sides are bounded by much smaller eroded hills.

GENERAL DESCRIPTION

Twenty-two cromlechs in a variety of styles make up this cluster. Distributed across an area approximately 60 m east–west × 100 m north–south, the burials here include thirteen standard cromlechs: six bedrock and three paved. The standard cromlechs range in size from 2.0 to 4.2 m in diameter while the paved cromlechs are slightly larger (averaging 5 m in diameter). The bedrock cromlechs range in diameter from 3.0 to 4.5 m. All are constructed of medium to large, shaped bedrock blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

TSAGHKACHOVIT QUADRANT (*cont.*)

Feature 1 is a paved cromlech 5 m in diameter north–south \times 4 m east–west. It is constructed of medium and large, shaped basalt blocks encircling flat, shaped basalt slabs that interlock to form the interior paving.

Feature 2 was found on the southern limit of the cluster. It is a medium, bedrock cromlech, 3.6 m in diameter north–south \times 2.7 m east–west. A single large bedrock boulder constitutes the northern perimeter of the cromlech's outer ring, while closely packed, shaped basalt blocks outline the rest of the construction. Two medium basalt blocks visible in the center of the cromlech may be part of the capstones, but the interior is largely submerged.

BURIAL CLUSTER 90

PLACE NUMBER	Ar/Ts.277.08	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,280
UTM EASTING	434412	LATITUDE	40° 36.302'
UTM NORTHING	4496312	LONGITUDE	44° 13.478'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster of burials is located 0.18 km southeast (bearing 161°) of Tsaghkahovit Burial Cluster 86 (map quadrant B4k).

TOPOGRAPHY

Tsaghkahovit Burial Cluster 90 sprawls across a wide, relatively flat area on the west bank of a small watercourse.

GENERAL DESCRIPTION

The burials in this cluster are widely dispersed across flat terrain which makes it difficult to identify any boundaries or count the number of constructions. The burials are clearly identifiable across an irregular area approximately 300 m east–west \times 210 m north–south. The visible burials include small standard- and bedrock-style constructions that range from 2 to 3 m in diameter. At least forty-five cromlechs are clearly visible in the area, with many more likely hidden from view.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 91

PLACE NUMBER	Ar/Ts.275.07	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,302
UTM EASTING	434715	LATITUDE	40° 36.900'
UTM NORTHING	4496321	LONGITUDE	44° 13.724'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

The center of Tsaghkahovit Burial Cluster 91 is located 0.17 km northwest (bearing 317°) of Tsaghkahovit Settlement 2 (map quadrant B4k).

TOPOGRAPHY

Set on a broad, low plateau between two small watercourses, the burials of Tsaghkahovit Burial Cluster 91 occupy terrain scarred by recent cultivation and field clearance.

GENERAL DESCRIPTION

Like Tsaghkahovit Burial Cluster 90, the burials of Tsaghkahovit Burial Cluster 91 are widely dispersed and difficult to assess as a cluster. The burials appear to spread across an area approximately 250 m north–south × 225 m east–west and are broadly spaced. Within this area, fifty-two cromlechs, including standard, bedrock, and paved styles, are visible; however, because the cluster extends across varied terrain, including areas impacted by field clearance, it is likely that a large number of burials have been either destroyed or buried. The cromlechs are largely unexceptional, employing small to medium basalt blocks for tombs that range from 1.5 to 3.5 m in diameter (with the exception of feature 1).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is the largest cromlech recorded in this cluster. It is 7 m in diameter, a paved cromlech built primarily of medium, unworked basalt blocks. Several larger, shaped blocks were employed on the burial's southern perimeter, but the center of the burial was built of smaller lightly worked blocks set into a tightly fitted "pavement."

Feature 2 is a small paved cromlech on the far southern edge of the cluster, adjacent to Tsaghkahovit Settlement 2. It is 1.5 m in diameter north–south × 2.5 m east–west and is constructed of small, unworked basalt blocks set in a tight, irregular outer ring surrounding a center paved with small basalt blocks.

BURIAL CLUSTER 92

PLACE NUMBER	Ar/Ts.285.03	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,430
UTM EASTING	434428	LATITUDE	40° 36.805'
UTM NORTHING	4496133	LONGITUDE	44° 13.490'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 92 was found 0.33 km west (bearing 268°) of Tsaghkahovit Settlement 2 and 0.18 km south (bearing 175°) of Tsaghkahovit Burial Cluster 90 (map quadrant B4g).

TOPOGRAPHY

The burials of this cluster hug the east- and south-facing slopes of a moderately steep hill. A small watercourse cuts its way northward in the valley below.

GENERAL DESCRIPTION

The burials within this comparatively compact cluster include approximately twenty-three bedrock and standard cromlechs. The burials range in size from 2.5 to 7.0 m in diameter. All are built of shaped, medium basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

TSAGHKAHOVIT QUADRANT (*cont.*)*BURIAL CLUSTER 93*

PLACE NUMBER	Ar/Ts.283.03	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,312
UTM EASTING	434670	LATITUDE	40° 36.810'
UTM NORTHING	4496145	LONGITUDE	44° 13.637'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster is located just outside the western wall of Tsaghkahovit Settlement 2, on both sides of Tsaghkahovit Canal 4 (map quadrant B4g).

TOPOGRAPHY

These burials are sited on the west-facing slope of an elongated, north–south-oriented ridge. The burials start at the top of the ridge (adjacent to the wall of Tsaghkahovit Settlement 2) and continue to the bottom of the slope where a small watercourse runs across the valley floor.

GENERAL DESCRIPTION

The burials in this cluster are broadly dispersed and number approximately twenty-three (visible) standard and bedrock-style cromlechs. They are generally quite small, ranging from 1.0 m to 3.5 m in diameter, and built of small, unworked basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 94

PLACE NUMBER	Ar/Ts.280.05	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,406
UTM EASTING	434019	LATITUDE	40° 36.816'
UTM NORTHING	4496167	LONGITUDE	44° 13.189'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located just 0.19 km west (bearing 257°) of Tsaghkahovit Burial Cluster 80, this cluster of burials occupies the southern tip of the same extended ridgeline that hosts Tsaghkahovit Burial Cluster 87 (map quadrant B4f)

TOPOGRAPHY

The burials of Tsaghkahovit Burial Cluster 94 occupy the eastern slope of the southern end of a north–south-oriented ridgeline. The area is riddled with bedrock outcrops and fallen boulders.

GENERAL DESCRIPTION

The burials of this cluster are packed rather tightly within an area approximately 35 × 55 m. The burials include about twenty-three bedrock and standard cromlechs that range in diameter from 2 to 4 m. The cromlechs are generally unexceptional, constructed of small and medium basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 95

PLACE NUMBER	Ar/Ts.293.03	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,314
UTM EASTING	434579	LATITUDE	40° 36.599'
UTM NORTHING	4495750	LONGITUDE	44° 13.600'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 95 was found 0.43 km southwest (bearing 204°) of Tsaghkahovit Settlement 2 and 2.95 km south (bearing 188°) of Tsaghkahovit Fortress, the most southerly burial cluster within the Tsaghkahovit survey quadrant (map quadrant B4g).

TOPOGRAPHY

These burials are set on the northern edge of a triangular promontory bordered by watercourses on the east and west flanks. The area is relatively flat, sloping slightly to the south, and free of boulders or outcrops.

GENERAL DESCRIPTION

Tsaghkahovit Burial Cluster 95 occupies an area approximately 114 m north–south × 100 m east–west. Within this territory the burials appear to be quite discrete and evenly distributed. However, many are highly submerged leaving only glimpses of stone perimeters or large capstones, so it is difficult to provide an overall assessment of the styles and sizes represented here. It is clear that both standard- and bedrock-style cromlechs can be found in this cluster, but it is likely that other styles are also present.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is one of only a handful of burials where a large segment of the outer ring is visible. The cromlech is slightly oblong, or even rectilinear, 5.5 m east–west × 4.5 m north–south. The outer ring is built of large, shaped basalt boulders. On the western side of the burial a large basalt slab appears to define the end of the interior chamber, as does a similarly shaped stone on the north side. However, the remainder of the interior of the construction is submerged below the surface. It is possible that this burial was robbed, which would explain the visibility of the chamber stones.

BURIAL CLUSTER 96

PLACE NUMBER	Ar/Ts.300.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,297
UTM EASTING	433698	LATITUDE	40° 36.918'
UTM NORTHING	4496352	LONGITUDE	44° 12.977'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Just 0.16 km southeast (bearing 170°) of Tsaghkahovit Burial Cluster 88, this cluster of burials occupies the west flank of the same ridge that hosts Tsaghkahovit Burial Cluster 87 on its eastern slope (map quadrant B4j).

TOPOGRAPHY

Tsaghkahovit Burial Cluster 96 was found on the lower and middle slope of a north–south-oriented ridgeline. At the top of the ridge, denuded bedrock rises from thin soil deposits. On the slopes, boulders and bedrock erupt from the ground surface.

TSAGHKAHOVIT QUADRANT (*cont.*)

GENERAL DESCRIPTION

The standard and bedrock cromlechs of this cluster occupy 155 m east–west × 130 m north–south. An accurate count is difficult since many are submerged while others are obscured by boulders and bedrock. Approximately twelve cromlechs are clearly visible, but more are likely present. All are small, between 2.5 and 4.5 m in diameter, and built of shaped, small and medium basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 97

PLACE NUMBER	Ar/Ts.306.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,386
UTM EASTING	433780	LATITUDE	40° 36.677'
UTM NORTHING	4495904	LONGITUDE	44° 13.034'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Located 3.02 km southwest (bearing 204°) of Tsaghkahovit Fortress, Tsaghkahovit Burial Cluster 97 is just 0.46 km south (bearing 170°) of Tsaghkahovit Burial Cluster 96 (map quadrant B4f).

TOPOGRAPHY

This cluster of burials is set within a small circular basin enclosed on all sides by elevated, eroded ridgelines. A small passageway on the southern perimeter affords entry into the basin. The burials are primarily concentrated on the western side, but some evidence of cultivation suggests the burials may have been impacted by subsequent clearing. A few cromlechs appear to climb the east slope toward the summit of a low ridge.

GENERAL DESCRIPTION

The cromlechs in this cluster average 3–5 m in diameter. Many are submerged due to erosion from the adjacent ridgeline, but estimates suggest approximately forty-five cromlechs are partially visible in the area. The visible cromlechs include standard, mounded, paved, and spiral constructions. All are built of medium to large, unworked or lightly shaped basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 98

PLACE NUMBER	Ar/Ts.313.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,250
UTM EASTING	433547	LATITUDE	40° 36.778'
UTM NORTHING	4496090	LONGITUDE	44° 12.865'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 98 is located 0.30 km southeast (bearing 148°) of Tsaghkahovit Burial Cluster 89, along the same north–south-oriented outcrop (map quadrant B4f).

TOPOGRAPHY

The burials of this cluster are set atop a long, low ridge littered with basalt boulders and denuded rock.

GENERAL DESCRIPTION

This cluster includes an estimated thirty-three cromlechs, twenty-seven standard and five bedrock, none of which exceeds 4 m in diameter. All are built of unworked, medium basalt blocks set in a single ring surrounding one to three basalt capstones. The bedrock cromlechs appear to employ circular rather than rectangular capstones. The cluster spreads across an area approximately 165 m north–south × 120 m east–west.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a bedrock cromlech, 3.0 m in diameter north–south × 3.5 m east–west. A portion of the western arc of the cromlech is constructed of shaped bedrock while the remainder of the circumferential ring is built of unworked, medium basalt blocks. No capstones are visible, suggesting possible disturbance. This is reinforced by the small cobbles that lie strewn across the area except within the interior of the cromlech. It is possible that the burial was at one time surmounted by a mound of cobbles which was subsequently destroyed. Given the proximity of an adjacent artillery range, it is not surprising that a number of the burials in this cluster show signs of possible disturbance.

BURIAL CLUSTER 99

PLACE NUMBER	Ar/Ts.321.02	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,296
UTM EASTING	433163	LATITUDE	40° 36.666′
UTM NORTHING	4495886	LONGITUDE	44° 12.595′
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This burial cluster, the westernmost of the Tsaghkahovit survey quadrant clusters, was found 2.05 km southeast (bearing 107°) of Sahakaberd Fortress (map quadrant B4e).

TOPOGRAPHY

The burials of this cluster are set on a gently sloping plateau on the east bank of a well-defined watercourse. The plateau is criss-crossed by a snaking dirt road.

GENERAL DESCRIPTION

The cromlechs in this cluster are highly submerged, making a count very difficult. Only a small number (see feature 1) appear to be larger than 4 m in diameter with most averaging between 2.0 and 2.6 m in diameter. The visible segments of these constructions are built of unworked, medium basalt blocks. The cromlechs are widely dispersed across the plateau, an area 215 × 280 m, but appear to be concentrated on the western edge. Standard, paved, bedrock, and spiral cromlechs were all identified within the cluster.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is an unusually large standard cromlech within this cluster, 8.9 m in diameter. It is constructed of large, shaped basalt blocks in the outer ring and medium capstones.

TSAGHKAHOVIT QUADRANT (*cont.*)*BURIAL CLUSTER 100*

PLACE NUMBER	Ar/Ts.500.03	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,343
UTM EASTING	436693	LATITUDE	40° 37.038'
UTM NORTHING	4496545	LONGITUDE	44° 15.094'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This cluster of burials is located in a somewhat isolated area, 2.71 km southeast (bearing 141°) of Tsaghkahovit Fortress (map quadrant B5i).

TOPOGRAPHY

These burials were identified on the southern slope of a small conical rise which guards the southern edge of a small elevated basin. The hill is highly eroded with exposed areas of natural bedrock that partially obscure visibility in the area. In addition, piles of stones near the base of the hill related to the clearance of an adjacent field make the identification of some burials quite tentative.

GENERAL DESCRIPTION

This small cluster, no more than 50 m north–south × 60 m east–west, includes standard and perhaps mounded cromlechs. While the standard cromlechs are most clearly visible near the middle of the hill slope, possible mounded cromlechs were identified only near the base of the slope, where the cluster meets the edge of a cultivated field. Even though the mounds of tuff and basalt cobbles and, occasionally, larger stones, do not look like modern field piles, neither are they clearly cromlechs since in most cases the outer circle is partially submerged. The visible standard cromlechs are 3–6 m in diameter and constructed of medium, unworked or shaped basalt blocks set in a ring around a center occupied by one to three basalt capstones.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 101

PLACE NUMBER	Ar/Ts.500.04	ILLUSTRATION	Pls. 16–17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,406
UTM EASTING	436378	LATITUDE	40° 37.046'
UTM NORTHING	4496562	LONGITUDE	44° 14.870'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 101 spreads across two small hills overlooking the northern bank of Tsaghkahovit Reservoir 3. This cluster was found 0.62 km south (bearing 169°) of Tsaghkahovit Burial Cluster 38, along Tsaghkahovit Canal 3 (map quadrant B5i).

TOPOGRAPHY

The burials of Tsaghkahovit Burial Cluster 101 are set on the southern slopes of two small outcrops. Numerous boulders and outcrops of natural rock make identification of the burials quite difficult. Tsaghkahovit Canal 3 cuts through the midsection of the cluster. On the western edge of the cluster a tree farm appears to have disturbed a number of cromlechs, judging from the stones that now lie strewn about under the boughs.

GENERAL DESCRIPTION

This cluster of approximately thirty-five standard cromlechs covers an area approximately 60 m north–south \times 125 m east–west. The burials are all 2–4 m in diameter and built of medium basalt blocks set in a single ring around one to three basalt capstones. In the far west, within the territory of the tree farm, are five visible paved cromlechs. All five are approximately 2.5 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 102

PLACE NUMBER	Ar/Ts.501.03	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,291
UTM EASTING	435183	LATITUDE	40° 37.027'
UTM NORTHING	4496567	LONGITUDE	44° 14.024'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 102 was discovered 0.60 km northeast (bearing 45°) of Tsaghkahovit Settlement 2 (map quadrant B4k).

TOPOGRAPHY

This cluster of burials is set in a small basin surrounded on all sides by rock outcrops. The burials occupy both the basin and the slopes of the surrounding hills. The hill sides are highly eroded and large boulders also obscure the surface visibility.

GENERAL DESCRIPTION

The mounded, spiral, and standard cromlechs of Tsaghkahovit Burial Cluster 102 extend across an area approximately 70 square m. The burials are spread widely and likely amount to no more than forty individual tombs. The spiral and standard tombs are built of medium, unworked and shaped basalt blocks. The mounded cromlechs use similar blocks to encircle piles of small tuff and basalt cobbles. Most of the burials range from 2.5 to 4.5 m in diameter. On the far southern edge of the cluster is a single line of densely packed paved cromlechs (feature 1).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a line, or “ribbon,” of cromlechs that meanders roughly east–west for 80 m with an average width of 2 m. The burials are all built of unworked basalt blocks but they are packed so tightly that it is quite difficult to make out individual burials.

BURIAL CLUSTER 103

PLACE NUMBER	Ar/Ts.503.01	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,453
UTM EASTING	437216	LATITUDE	40° 36.870'
UTM NORTHING	4496239	LONGITUDE	44° 15.469'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 103 lies in the far southeast of the Tsaghkahovit survey quadrant, 3.28 km southeast (bearing 138°) of Tsaghkahovit Fortress (map quadrant B5e).

TSAGHKAHOVIT QUADRANT (*cont.*)

TOPOGRAPHY

The burials of this cluster sprawl across the northern and northeastern flank of a tall hill, marked with a Soviet-era mapping benchmark and known locally as Shishtepe. The terrain slopes gently and is dotted with occasional eroded boulders. But the primary problem for visibility in this area is submergence rather than erosion. Although numerous cromlechs were 25–50 percent visible, few were any more visible than that, limiting the description for this cluster.

GENERAL DESCRIPTION

The visible burials of this cluster appear to extend across an area 150 m east–west × 110 m north–south. The burials consist primarily of standard cromlechs between 2 and 4 m in diameter. The visible construction stones are medium, unworked basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 104

PLACE NUMBER	Ar/Ts.505.05	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,466
UTM EASTING	436275	LATITUDE	40° 36.859'
UTM NORTHING	4496216	LONGITUDE	44° 14.801'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

On the far southern limit of the Tsaghkahovit survey cluster, Tsaghkahovit Burial Cluster 104 is 2.76 km southeast (bearing 153°) of Tsaghkahovit Fortress. Just 150 m to the south is a high ridgeline of young lava which marks the southern extent of burials on Mount Aragats (map quadrant B4h).

TOPOGRAPHY

The burials of Tsaghkahovit Burial Cluster 104 lie on the east and west edges of a north–south-oriented ridgeline. There are no visible burials in the center of the ridgeline, perhaps due to disturbance in the area.

GENERAL DESCRIPTION

Both the east and west segments of this cluster are made up of standard and spiral cromlechs, 4.5–7.0 m in diameter. The cluster includes an estimated thirty burials, but this number does not take into account possible disturbed or submerged burials that may have occupied the center of the ridgeline. The cromlechs are built of medium, unworked and shaped basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 105

PLACE NUMBER	Ar/Ts.505.01	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,326
UTM EASTING	437793	LATITUDE	40° 36.747'
UTM NORTHING	4495997	LONGITUDE	44° 15.877'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Tsaghkahovit Burial Cluster 105 is located in the far southeastern corner of the Tsaghkahovit survey quadrant, 3.86 km southeast (bearing 134°) of Tsaghkahovit Fortress (map quadrant B5f).

TOPOGRAPHY

The handful of burials in this cluster are located in a triangular basin flanked by tall eroding ridgelines. While there are signs of disturbance on the lower slopes, where straight lines of rock around a plowed area suggest field clearance, the burials still extant do not appear to have been disturbed.

GENERAL DESCRIPTION

This small cluster includes no more than fifteen to twenty standard cromlechs. The burials are built of medium basalt blocks set in a single ring around one to three capstones.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

BURIAL CLUSTER 106

PLACE NUMBER	Ar/Ts.505.06	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,457
UTM EASTING	435884	LATITUDE	40° 36.872'
UTM NORTHING	4496241	LONGITUDE	44° 14.522'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

On the far southern limit of the Tsaghkahovit survey quadrant, this cluster of burials was found 2.58 km southeast (bearing 160°) of Tsaghkahovit Fortress (map quadrant B4h).

TOPOGRAPHY

Tsaghkahovit Burial Cluster 106 was discovered on the slopes surrounding a triangular basin. The basin shows signs of recent cultivation and the slopes are highly eroded, with large areas of exposed natural bedrock.

GENERAL DESCRIPTION

This cluster of burials includes three small subgroups of five to six standard cromlechs, each between 4 to 6 m in diameter. They are constructed of medium, unworked and shaped basalt blocks, encircling one to three capstones.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANALS AND CANAL TRACES

APARAN QUADRANT

CANAL 1

PLACE NUMBER	Ar/Ap.19.01	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,205
UTM EASTING	439316	LATITUDE	40° 37.541'
UTM NORTHING	4497455	LONGITUDE	44° 16.949'
PERIODIZATION	N/A		

ASSOCIATION

Canal segment is located 1.47 km northeast of Nigavan village (map quadrant B5p).

TOPOGRAPHY

Located on a broad promontory, gently inclined from southwest to northeast, the remains of this canal cut slightly against the slope, drawing water northwest at a bearing of 338°.

GENERAL DESCRIPTION

This canal segment is substantially built. Measuring 3.75 m wide, it is lined with stone and has the remains of what appears to have been a check dam at its southeastern end. The canal is well paved for a distance of 58 m. It then is visible only as a canal trace stretching 48 m to the southeast and then disappearing altogether. The coordinates above represent the canal's northwest limit. Its southeastern limit was marked at UTM Quadrant 38T, UTM Easting 439337, UTM Northing 4497402.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 3

PLACE NUMBER	Ar/Ap.19.02	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,122
UTM EASTING	440431	LATITUDE	40° 37.543'
UTM NORTHING	4497449	LONGITUDE	44° 17.741'
PERIODIZATION	N/A		

ASSOCIATION

Canal segment is located 0.95 km north of Nigavan village and, interestingly, 1.13 km due east of Aparan Canal 1 (map quadrant B6m).

TOPOGRAPHY

The canal is located at the base of a terminal spur of Mount Aragats as the undulating hills and outcrops yield to flatter, cultivated land.

GENERAL DESCRIPTION

This canal segment extends for 77 m at a bearing of 302°. The coordinates given above represent the northwestern end of the segment. The southeastern end is at UTM Quadrant 38T, UTM Easting 440498, UTM Northing 4497407.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

KOLGAT QUADRANT

CANAL 1

PLACE NUMBER	Ar/Ko.06.01	ILLUSTRATION	Pl. 20
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,311
UTM EASTING	426312	LATITUDE	40° 41.680'
UTM NORTHING	4505229	LONGITUDE	44° 07.670'
PERIODIZATION	N/A		

ASSOCIATION

Set on the eastern slope of Mount Kolgat, this canal is located 3.8 km northwest (bearing 302°) of Berkarat (former Akhula) village (map quadrant D2k).

TOPOGRAPHY

The canal is set on a steep slope 100 m northwest (upslope) of a modern field. The construction runs almost directly downslope (bearing 140°), disappearing once it reaches the edge of modern cultivation.

GENERAL DESCRIPTION

This canal ranges from 0.7 to 1.0 m in width across its 168 m long visible course. Large basalt paving blocks remain visible at several points. Approximately 60 m from its upper limit, the canal widens into a broad flat area 6 m across before narrowing again to continue the downhill run. This flat area likely marks the site of a check dam.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 2

PLACE NUMBER	Ar/Ko.24.02	ILLUSTRATION	Pl. 20
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,340
UTM EASTING	423885	LATITUDE	40° 42.128'
UTM NORTHING	4506081	LONGITUDE	44° 05.941'
PERIODIZATION	N/A		

ASSOCIATION

Located on the lower northwest flank of Mount Kolgat, this canal is 0.7 km west (bearing 275°) of Kolgat Reservoir 1 (map quadrant D1p).

TOPOGRAPHY

This canal is built into a spur of Mount Kolgat which slopes gently to the west down into the Shirak Plain.

GENERAL DESCRIPTION

The canal trace itself is simply a small (45 cm wide × 45 m long) linear depression oriented to a bearing of approximately 127°, a course which, if continued, would flow directly into Kolgat Reservoir 1.

ASSOCIATED FEATURES AND MATERIALS

No surface materials. What makes this trace more complex is the presence of a small stone cistern (40 cm deep) on the line of the canal. The cistern is stone lined with a square socket opening at ground level defined by four worked basalt blocks. The cistern's opening is still visible, suggesting it is a relatively recent construction. However, it held no water.

KOLGAT QUADRANT (*cont.*)

CANAL 3

PLACE NUMBER	Ar/Ko.25.02	ILLUSTRATION	Pl. 20
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,307
UTM EASTING	423553	LATITUDE	40° 42.185'
UTM NORTHING	4506190	LONGITUDE	44° 05.705'
PERIODIZATION	N/A		

ASSOCIATION

This canal trace is located just 0.35 km northwest (bearing 287°) of Kolgat Canal 2 (map quadrant D1p).

TOPOGRAPHY

The terrain surrounding this canal trace slopes so slightly down to the west that it effectively cuts across flat terrain.

GENERAL DESCRIPTION

Kolgat Canal 3 is a wide (2 m) but shallow trace that cuts across the surrounding flat terrain. Its course runs at a bearing of 214°, making a hypothetical articulation with Kolgat Canal 2 difficult to define.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 4

PLACE NUMBER	Ar/Ko.32.01	ILLUSTRATION	Pl. 20
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,323
UTM EASTING	424405	LATITUDE	40° 42.373'
UTM NORTHING	4506530	LONGITUDE	44° 06.307'
PERIODIZATION	N/A		

ASSOCIATION

Kolgat Canal 4 links Kolgat Reservoirs 2 and 3 (map quadrant E2a).

TOPOGRAPHY

Like Kolgat Reservoirs 2 and 3, this canal lies in a basin on the far northwest flank of Mount Kolgat.

GENERAL DESCRIPTION

The canal is not defined by construction but rather is simply a channel cut in the sod to link the two reservoirs.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 5

PLACE NUMBER	Ar/Ko.32.02	ILLUSTRATION	Pl. 20
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,280
UTM EASTING	426428	LATITUDE	40° 42.373'
UTM NORTHING	4506510	LONGITUDE	44° 07.744'
PERIODIZATION	N/A		

ASSOCIATION

Kolgat Canal 5 is located in the northeast corner of the Kolgat survey quadrant, 4.4 km southwest (bearing 198°) of Lernapar Fortress and 1.3 km northeast (bearing 50°) of Kolgat settlement 1 (map quadrant E2c).

TOPOGRAPHY

The canal cuts laterally across a gentle slope leading northeast down the lower flank of Mount Kolgat.

GENERAL DESCRIPTION

This canal trace bears 21° for a distance of 55 m, terminating in Kolgat Reservoir 4.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 6

PLACE NUMBER	Ar/Ko.34.02	ILLUSTRATION	Pl. 20
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,300
UTM EASTING	425932	LATITUDE	40° 42.422'
UTM NORTHING	4506606	LONGITUDE	44° 07.391'
PERIODIZATION	N/A		

ASSOCIATION

Kolgat Canal 6 is located 0.58 km west (bearing 273°) of Kolgat Reservoir 4 (map quadrant E2b).

TOPOGRAPHY

The canal is located on a flat terrace at the northeastern base of Mount Kolgat.

GENERAL DESCRIPTION

This canal appears to intercept a natural watercourse descending the flank of Mount Kolgat. At its upper extent there is a small check dam made of earth and stone that forces the water over a slight rise and into the adjacent canal. The canal itself is more of a trace than a true canal, since no evidence of construction is visible other than the dam. The trace is 35 cm wide × 10 cm deep. It runs a course bearing 87° for a distance of 128 m before turning southeast (bearing 113°) to continue for another 75 m. Although not traceable beyond this distance, it is likely given the final bearing that the canal flowed at one time into Kolgat Reservoir 4.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

MANTASH QUADRANT

CANAL 2

PLACE NUMBER	Ar/Ma.01.01	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,278
UTM EASTING	424950	LATITUDE	40° 37.450'
UTM NORTHING	4496756	LONGITUDE	44° 06.764'
PERIODIZATION	N/A		

ASSOCIATION

Mantash Canal 2, 3.33 km west (bearing 271°) of Hnaberd Fortress, is bracketed by Mantash Canal 3, 0.18 km immediately to the north, and by Mantash Stela 1, 0.2 km to the south (map quadrant B2i).

TOPOGRAPHY

The canal is built into a gentle south–north slope. Eroded bedrock outcrops confine the eastern edge of the line.

GENERAL DESCRIPTION

Lined with well-shaped flagstones, this canal segment is one of the most elaborately made of the fluvial features recorded on the survey. The canal runs downslope south to north (bearing 12°) for 160 m. It is 60 cm wide and approximately 45 cm deep. There are also traces along the segment of a single poorly preserved dam of basalt construction, although it is difficult to discern if the blocks are remnants of a dam or highly disturbed flagstones. The putative dam marks a junction in the course of the canal, where the line jogs 1.5 m west before resuming its southerly line.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 3

PLACE NUMBER	Ar/Ma.10.03	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,288
UTM EASTING	424961	LATITUDE	40° 37.193'
UTM NORTHING	4496939	LONGITUDE	44° 06.771'
PERIODIZATION	N/A		

ASSOCIATION

Like Mantash Canal 2, its neighbor and possible extension 0.18 km to the south, Mantash Canal 3 is also 3.33 km west (bearing 275°) of Hnaberd Fortress (map quadrant B2i).

TOPOGRAPHY

This canal meanders along a gentle hillside which slopes slightly down from south to north.

GENERAL DESCRIPTION

The canal is constructed of variably sized, unworked basalt stones and cobbles that line a shallow linear depression. The construction is 1.3 m wide and averages 50 cm in depth. It is visible along a line only 40 m long, but unlike the typical linear form of most canals, this one meanders across the slope of the hillside, moving from south to north in a lazy series of bends and turns that approximate a 350° bearing.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 4

PLACE NUMBER	Ar/Ma.24.01	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,318
UTM EASTING	422691	LATITUDE	40° 36.703'
UTM NORTHING	4496057	LONGITUDE	44° 05.166'
PERIODIZATION	N/A		

ASSOCIATION

Located 3.66 km southeast (bearing 144°) of Mets Mantash village, Mantash Canal 4 is just 0.14 km northeast (bearing 24°) of Mantash Canal 5, of which it is likely a part (map quadrant B1g).

TOPOGRAPHY

Both Mantash Canals 4 and 5 were built on the upper flank of a low promontory that stretches from south to north.

GENERAL DESCRIPTION

The canal sits only 25 m west of a natural stream, whose waters it may have been built to divert. Lined with moderately sized, unworked basalt stones set into a linear depression 35 cm deep and no more than 1 m wide, the canal runs roughly northwest at a bearing of 320°. The canal is quite clearly visible along a 80 m length, after which it becomes more difficult to discern.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 5

PLACE NUMBER	Ar/Ma.26.02	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,323
UTM EASTING	422647	LATITUDE	40° 36.645'
UTM NORTHING	4495952	LONGITUDE	44° 05.136'
PERIODIZATION	N/A		

ASSOCIATION

Located 3.78 km southeast (bearing 144°) of Mets Mantash village, Mantash Canal 5 is just 0.14 km southwest (bearing 204°) of Mantash Canal 4, of which it is likely a part (map quadrant B1g).

TOPOGRAPHY

Both Mantash Canals 4 and 5 were built on the upper flank of a low promontory that stretches from south to north.

GENERAL DESCRIPTION

Unlike neighboring Mantash Canal 4, Canal 5 is only partially visible over a course of 27 m. The canal is lined with small cobbles that define a linear depression less than 10 cm wide and no deeper than 50 cm. The small visible segment appears to bear 15° northeast.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

MANTASH QUADRANT (*cont.*)

CANAL 6

PLACE NUMBER	Ar/Ma.27.05	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,404
UTM EASTING	425479	LATITUDE	40° 36.531'
UTM NORTHING	4495712	LONGITUDE	44° 07.147'
PERIODIZATION	N/A		

ASSOCIATION

Located 2.96 km southwest (bearing 251°) of Hnaberd Fortress, Mantash Canal 6 is only 0.1 km south of Mantash Canal 15, of which it is perhaps a part (map quadrant B2f).

TOPOGRAPHY

The canal cuts across a gently sloping plain then veers slightly west where it is set mid-flank into an east-facing hillside.

GENERAL DESCRIPTION

This canal likely connects to Mantash Canal 15 and then runs into Mantash Reservoir 1, 0.36 km to the northwest (bearing 351°). It is periodically lined with cut stones but often appears only as a shallow linear depression. The canal, at its minimum, is 31 cm wide, but expands at the points of stone construction to a width of 1.5 m.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 7

PLACE NUMBER	Ar/Ma.28.03	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,395
UTM EASTING	423903	LATITUDE	40° 36.536'
UTM NORTHING	4495735	LONGITUDE	44° 06.028'
PERIODIZATION	N/A		

ASSOCIATION

Mantash Canal 7 flows directly into Mantash Reservoir 3, 0.23 km to the west (map quadrant B1h).

TOPOGRAPHY

At its southernmost end, the canal cuts obliquely across a gently sloping hillside, then breaks into a flatter area before terminating in the small basin that holds Mantash Reservoir 3.

GENERAL DESCRIPTION

Visible only as a shallow depression, this canal trace is 2 m wide × 2 m deep at maximum. It cuts a rather straight line west (bearing 280°) to terminate at Mantash Reservoir 3.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 8

PLACE NUMBER	Ar/Ma.46.02	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,489
UTM EASTING	425757	LATITUDE	40° 36.011'
UTM NORTHING	4494744	LONGITUDE	44° 07.352'
PERIODIZATION	N/A		

ASSOCIATION

Located in an isolated area, 3.17 km southwest (bearing 232°) of Hnaberd Fortress, Mantash Canal 8 has no clear articulation with any other place in the Mantash survey quadrant fluvial network (map quadrant B2b).

TOPOGRAPHY

The canal appears to emerge out of the lower reaches of denuded basalt that marks the southern limit of our survey area. The area slopes gently down from south to north before terminating at the base of a sizable hill.

GENERAL DESCRIPTION

This canal is less linear than most. Upon its emergence from the denuded bedrock, it bears northeast 61° for approximately 60 m before disappearing at the foot of a sizable hill (although faint indications suggest it may continue cutting across the flank of the hill). The canal is lined with small and medium basalt cobbles and ranges from 45 to 55 cm wide.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 9

PLACE NUMBER	Ar/Ma.46.04	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,551
UTM EASTING	423430	LATITUDE	40° 36.011'
UTM NORTHING	4494770	LONGITUDE	44° 05.700'
PERIODIZATION	N/A		

ASSOCIATION

Located roughly midway between Mantash Settlement 1 (0.53 km bearing 312°) and Mantash Reservoir 4 (0.55 km bearing 104°), Mantash Canal 9 is also just 0.49 km east of Mantash Canal 10 (map quadrant B1d).

TOPOGRAPHY

The local topography surrounding Mantash Canal 9 varies from the southernmost extent of the construction, set in a flat, open plateau, to its lowermost (northern) extremity where it cuts around the base of a large hill. Erosion and weathering of the hillside have deflated certain areas, creating the appearance that the canal moves up, rather than across, the hillside.

GENERAL DESCRIPTION

Lined with cut stone and unworked bedrock, this canal sits below bedrock outcroppings on the western hill slope. It measures 6 m wide and is possibly positioned on a prepared terrace platform built of unworked basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

MANTASH QUADRANT (*cont.*)*CANAL 10*

PLACE NUMBER	Ar/Ma.46.05	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,462
UTM EASTING	422984	LATITUDE	40° 35.995'
UTM NORTHING	4494743	LONGITUDE	44° 05.385'
PERIODIZATION	N/A		

ASSOCIATION

Mantash Canal 10 is located just 0.19 km southeast (bearing 148°) of Mantash Reservoir 4 and 0.44 km west (bearing 273°) of Mantash Canal 9 (map quadrant B1c).

TOPOGRAPHY

This canal cuts along the midsection of a gentle east-facing slope.

GENERAL DESCRIPTION

Lined with medium, cut stone blocks, this canal terminates in a running watercourse which feeds into Mantash Reservoir 4. It is oriented roughly north–south but turns westward at its northern extent. While highly eroded, it appears to be no more than 1 m wide and is visible over a distance of 225 m.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 11

PLACE NUMBER	Ar/Ma.23.03	ILLUSTRATION	Pls. 13–14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,336
UTM EASTING	424375	LATITUDE	40° 36.734'
UTM NORTHING	4496097	LONGITUDE	44° 06.360'
PERIODIZATION	N/A		

ASSOCIATION

Mantash Canal 11 is located 0.78 km northeast (bearing 65°) of Mantash Reservoir 3 and just 0.12 km southeast of Mantash Canal 14 (map quadrant B2e). It is likely that Mantash Canals 11 and 14 are part of the same canal.

TOPOGRAPHY

The canal cuts down the length of a gentle slope.

GENERAL DESCRIPTION

The canal runs north–south and varies in width across its approximately 50 m visible course from 1 to 3 m. In places, a simple depression of a canal trace emerges into a formally constructed canal with large basalt paving blocks on each side and on the bottom. The canal depth varies from 0.5 to 1.0 m and it runs a course roughly south–north (bearing 356°).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 12

PLACE NUMBER	Ar/Ma.05.02	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,115
UTM EASTING	426685	LATITUDE	40° 37.161'
UTM NORTHING	4496864	LONGITUDE	44° 07.994'
PERIODIZATION	N/A		

ASSOCIATION

Mantash Canal 12 is located 1.6 km west (bearing 263°) of Hnaberd Fortress, adjacent (north) to Mantash Burial Cluster 1 (map quadrant B2j).

TOPOGRAPHY

This canal segment is set near the bottom of a narrow valley between two raised ridges of denuded bedrock oriented north–south.

GENERAL DESCRIPTION

The canal itself is unbuilt, marked only by a swale 1.2 m deep × 2.0 m wide × 26.0 m long. But at the northern end is a small dam constructed of largely unworked basalt blocks. Beyond the dam, the canal is no longer visible. The canal runs south–north at a bearing of 355°.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 13

PLACE NUMBER	Ar/Ma.55.01	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,535
UTM EASTING	426466	LATITUDE	40° 35.751'
UTM NORTHING	4494256	LONGITUDE	44° 07.856'
PERIODIZATION	N/A		

ASSOCIATION

Located 3.02 km southwest (bearing 227°) of Hnaberd Fortress, along the northern boundary of our survey area, Mantash Canal 13 is the most elevated of all the canals in the survey area (map quadrant B2c).

TOPOGRAPHY

The canal cuts across a high plateau on an upper shoulder of Mount Aragats. The area slopes gently to the north, drained on either side by natural watercourses.

GENERAL DESCRIPTION

This canal trace connects two natural watercourses, extending approximately 75 m east–west (bearing 77°). It is marked by a shallow grassy depression 4.6 m wide that is as notable for its form as it is for the conspicuous vegetation growing along the now defunct line.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

MANTASH QUADRANT (*cont.*)*CANAL 14*

PLACE NUMBER	Ar/Ma.21.01	ILLUSTRATION	Pls. 13–14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,320
UTM EASTING	424333	LATITUDE	40° 36.789′
UTM NORTHING	4496199	LONGITUDE	44° 06.360′
PERIODIZATION	N/A		

ASSOCIATION

Set midway between Hnaberd Fortress (3.32 km, bearing 265°) and the Mantash River (3.73 km, bearing 90°), Mantash Canal 14 is adjacent to, and perhaps connected with, Mantash Canal 11 (map quadrant B1h).

TOPOGRAPHY

The canal trace lies at the bottom of a broad valley between two raised ridges.

GENERAL DESCRIPTION

The trace is visible only as a faint linear depression. It is 30–50 cm in depth and 1.0–1.5 m wide. It is visible for a length of approximately 30 m and then becomes difficult to trace. It runs roughly south–north at a bearing of 3°.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 15

PLACE NUMBER	Ar/Ma.26.07	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,376
UTM EASTING	425471	LATITUDE	40° 36.584′
UTM NORTHING	4495808	LONGITUDE	44° 07.140′
PERIODIZATION	N/A		

ASSOCIATION

Mantash Canal 15 is 2.93 km southwest (bearing 253°) of Hnaberd Fortress, just 250 m southeast (bearing 158°) of Mantash Reservoir 1 (map quadrant B2f). It is adjacent to Mantash Canal 6, just 100 m to the south, of which it is perhaps a continuation.

TOPOGRAPHY

This canal is set, somewhat unusually, on the top of a triangular promontory, framed on both the west and east sides by steep ravines.

GENERAL DESCRIPTION

This canal trace is oriented north–south and cuts a path through eroded bedrock outcrops toward Mantash Reservoir 1. There is no evidence of construction and the linear depression of the trace is visible only over a course of 15–20 m. It is 1.4 m wide and varies in depth between 50 and 90 cm.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

SAHAKABERD QUADRANT

CANAL 1

PLACE NUMBER	Ar/Sk.339.05	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,341
UTM EASTING	430719	LATITUDE	40° 36.450'
UTM NORTHING	4495510	LONGITUDE	44° 10.857'
PERIODIZATION	N/A		

ASSOCIATION

This canal trace was found on the lower slope of the same ridge that hosts Sahakaberd Burial Cluster 21 on its upper reaches (map quadrant B3g).

TOPOGRAPHY

This canal cuts across the lower slope of a north–south-oriented ridgeline, above a narrow valley marked by evidence of disturbance from a nearby military base.

GENERAL DESCRIPTION

This canal trace is primarily visible only as a small linear ditch, 70 cm across, running along the slope of a long ridgeline. However, in one area, the ditch widens considerably to 1.2 m across before narrowing back to its original dimensions. Several shaped basalt blocks in the area suggest this may have been a check dam for controlling water flow through the canal.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 2

PLACE NUMBER	Ar/Sk.344.02	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,395
UTM EASTING	430482	LATITUDE	40° 36.312'
UTM NORTHING	4495254	LONGITUDE	44° 10.698'
PERIODIZATION	N/A		

ASSOCIATION

Sahakaberd Canal 2 cuts along a series of elongated ridges, terminating 0.56 km southwest (bearing 227°) of Sahakaberd Settlement 2 (map quadrant B3c/g).

TOPOGRAPHY

The canal extends along an alternating series of western and eastern ridge flanks as it makes its way down the slope of Mount Aragats.

GENERAL DESCRIPTION

Sahakaberd Canal 2 is one of the longest recorded in the survey, stretching 0.87 km north–south. It is visible only as an extended linear depression averaging 0.80–1.00 m in width. No signs were found of check dams or other features along the canal's length.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

SAHAKABERD QUADRANT (*cont.*)

CANAL 3

PLACE NUMBER	Ar/Sk.351.06	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,451
UTM EASTING	430625	LATITUDE	40° 36.086'
UTM NORTHING	4494855	LONGITUDE	44° 10.836'
PERIODIZATION	N/A		

ASSOCIATION

Sahakaberd Canal 3 was found 0.12 km east of the southern terminus of Sahakaberd Canal 2 (map quadrant B3c).

TOPOGRAPHY

This canal runs along the flat top of a long, north–south oriented-ridge.

GENERAL DESCRIPTION

Sahakaberd Canal 3 is visible as a linear depression 1.80 m wide × 0.30 m deep. It runs northeast for 60 m, then turns northwest for 140 m before turning north for another 70 m. After this clearly visible segment the course of the canal is no longer traceable.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

TSAGHKAHOVIT QUADRANT

CANAL 1

PLACE NUMBER	Ar/Ts.016.09	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,222
UTM EASTING	435408	LATITUDE	40° 37.448'
UTM NORTHING	4497315	LONGITUDE	44° 14.178'
PERIODIZATION	N/A		

ASSOCIATION

Tsaghkahovit Canal 1 drains Tsaghkahovit Reservoir 1. The coordinates above mark the head of the canal. The coordinates of the foot of the canal, where it flows into Tsaghkahovit Canal 2, are UTM Easting 435441, UTM Northing 4497097 (map quadrant B4p/l).

TOPOGRAPHY

The canal flows south across a shallow basin and then through the eastern edge of a broad defile between two bedrock outcrops before joining Tsaghkahovit Canal 2.

GENERAL DESCRIPTION

The canal is only formalized at its head, where a stone dam regulates the flow. It becomes increasingly deeply cut as it moves south in order to draw the flow through the narrow defile on its southern end and then opens into two shallow channels before joining Tsaghkahovit Canal 2. At its maximum, the canal is 10 m wide.

ASSOCIATED FEATURES AND MATERIALS

No surface materials. See entry for Tsaghkahovit Reservoir 1 for a general discussion of the difficulties in dating the initial construction of the canal.

CANAL 2

PLACE NUMBER	Ar/Ts.016.10	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,224
UTM EASTING	435490	LATITUDE	40° 37.302'
UTM NORTHING	4497042	LONGITUDE	44° 14.238'
PERIODIZATION	N/A		

ASSOCIATION

Tsaghkahovit Canal 2 connects Tsaghkahovit Reservoirs 1 and 2 to Tsaghkahovit village. The coordinates above are for the head of the canal, where it joins Tsaghkahovit Reservoir 2. The foot of the canal, where it flows into the village, is located at UTM Easting 434372, UTM Northing 4498175 (map quadrant B4l/k/o).

TOPOGRAPHY

Flow into the canal is regulated by a concrete dam on the northern end of Tsaghkahovit Reservoir 2 and by the flow a few meters down coming from Tsaghkahovit Reservoir 1. The canal flows west through a narrow defile before turning north into a broad valley that terminates at Tsaghkahovit village.

GENERAL DESCRIPTION

At points along its course the channel is defined by concrete embankments and steel pipes, but in places near the foot it is less formalized. This presents a problem for the modern village in that much of the water drains back into the water table before it reaches the village.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 3

PLACE NUMBER	Ar/Ts.059.04	ILLUSTRATION	Pls. 16–17, 71d
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,338
UTM EASTING	436342	LATITUDE	40° 37.457'
UTM NORTHING	4497323	LONGITUDE	44° 14.841'
PERIODIZATION	N/A		

ASSOCIATION

Tsaghkahovit Canal 3 (pl. 71d) is part of an extended fluvial system that also includes Tsaghkahovit Reservoirs 3 and 4 and Tsaghkahovit Canal 4. The preserved construction segment is located just a few meters west of Tsaghkahovit Burial Cluster 36 (map quadrants B5i, B5m, and B4p).

TOPOGRAPHY

This canal runs largely north–south through a narrow defile between a series of elevated ridges. The terrain is not terribly steep for most of its visible course. It seems to draw water from a series of natural basins into a lower area with some evidence of modern cultivation.

GENERAL DESCRIPTION

The canal is currently visible on the surface only as an irregular watercourse (also visible in aerial photos). But remains of construction are visible in one segment where a wide segment of the canal, lined with basalt and tuff blocks, narrows to a smaller channel, also lined with tuff and basalt.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

TSAGHKAHOVIT QUADRANT (*cont.*)

CANAL 4

PLACE NUMBER	Ar/Ts.255.02	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,271
UTM EASTING	433441	LATITUDE	40° 37.067'
UTM NORTHING	4496627	LONGITUDE	44° 12.787'
PERIODIZATION	N/A		

ASSOCIATION

The northern limit of this canal (as presently visible) is located 1.40 km southwest (bearing 206°) of Tsaghkahovit village (map quadrant B4j).

TOPOGRAPHY

Tsaghkahovit Canal 4 hugs the base of a series of eroded rock outcrops, circumscribing the southern limit of a cultivated basin.

GENERAL DESCRIPTION

This canal is traceable winding across approximately 180 m of terrain. While it diminishes to a trace, visible only as a depression in the hillside at certain points, the construction is visible as a stone-lined channel, 1.50 to 1.63 m wide, for much of its extent. The stones are generally worked basalt slabs set end to end. A check dam is also visible at the head of the canal which may have served to bring together a series of more informal watercourses.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 5

PLACE NUMBER	Ar/Ts.278.02	ILLUSTRATION	Pls. 16, 71b
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,322
UTM EASTING	434717	LATITUDE	40° 36.856'
UTM NORTHING	4496224	LONGITUDE	44° 13.695'
PERIODIZATION	N/A		

ASSOCIATION

This canal trace (pl. 71b) runs across the midsection of a southwest-facing slope before turning northeast along the western slope of the same outcrop that hosts the western edge of Tsaghkahovit Settlement 2, above an adjacent watercourse (map quads B4g/k).

TOPOGRAPHY

The canal runs along the midsections of southwest- and northwest-facing slopes before turning 90° downslope into the adjacent valley.

GENERAL DESCRIPTION

This canal trace is visible only as a linear depression cut into the midsections of two extended hillsides. The canal appears to have its source in a small natural watercourse, diverting water onto the side of an extended northwest-facing ridge where it extends for 295 m. Although the turn in this canal is not presently visible, it appears to then head northeast along an adjacent slope where the canal trace is once again visible for 66 m before it curves westward to run 48 m downslope. It then turns to the northeast along the midsection of the slope for 106 m before returning to a northwesterly bearing to run downslope for another 68 m, entering a low basin. The course of the canal trace is no longer visible in this basin but may join with the adjacent natural watercourse 50 m to the west. No stones outline the edges of the canal, but the depression which marks the trace ranges from 50 to 70 cm in width.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CANAL 6

PLACE NUMBER	Ar/Ts.503.04	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,411
UTM EASTING	435479	LATITUDE	40° 36.922'
UTM NORTHING	4496351	LONGITUDE	44° 14.269'
PERIODIZATION	N/A		

ASSOCIATION

Tsaghkahovit Canal 6 connects a natural watercourse that runs just east of Tsaghkahovit Settlement 2 to Tsaghkahovit Canal 2, directing water toward the village and fortress of Tsaghkahovit (map quads B4h/l/k)

TOPOGRAPHY

This canal proceeds through a narrow ravine that runs northwest–southeast, bounded by extended lateral ridges on both flanks.

GENERAL DESCRIPTION

Tsaghkahovit Canal 6 is most clearly visible in the 1989 aerial photos, but has also left a trace on the ground as a line of boulders that follows portions of the track. The point noted above is one such location where the stone lining of the canal route is particularly visible.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CORRALS

APARAN QUADRANT

CORRAL 1

PLACE NUMBER	Ar/Ap.05.03	ILLUSTRATION	Pls. 17, 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,199
UTM EASTING	439398	LATITUDE	40° 37.937'
UTM NORTHING	4498185	LONGITUDE	44° 17.003'
PERIODIZATION	N/A		

ASSOCIATION

Aparan Corral 1 lies 0.7 km southeast of Korbulag village (map quadrant B5p).

TOPOGRAPHY

The corral is set on a gentle western slope of a north–east-running ridge.

GENERAL DESCRIPTION

This rectangular corral measures approximately 8.0×14.0 m and is composed of roughly worked, double-faced stone walls. It is one of the more carpentered corrals recorded during the survey, with a well-defined entrance at the northeast corner marked by tall standing stones on either side of the doorway.

APARAN QUADRANT (*cont.*)

ASSOCIATED FEATURES AND MATERIALS

The west wall is 8.0 m long and 1.7 m wide at a bearing of 310°. The north wall is 14.00 m long and 2.15 m wide at a bearing of 36°. The east wall is 9.0 m long and 1.5 m wide at a bearing of 326°. The south wall is 11.0 m long and 1.5 m wide at a bearing of 94°. The masonry of the north, east, and south walls is generally “cyclopean” with large roughly worked stones set atop one another. The west wall is more finely made with two, roughly worked faces of boulders bracketing a rubble interior. No surface materials.

CORRAL 2

PLACE NUMBER	Ar/Ap.18.01	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,239
UTM EASTING	438301	LATITUDE	40° 37.559'
UTM NORTHING	4497495	LONGITUDE	44° 16.230'
PERIODIZATION	N/A		

ASSOCIATION

Aparan Corral 2 is located 1.73 km south of Korbulag village (map quadrant B5n).

TOPOGRAPHY

This small circle of rocks is set on the west slope of a low ridge.

GENERAL DESCRIPTION

This corral was built of large unworked stone blocks piled informally in a circle with medium stones and smaller cobbles set around the edges in no clearly architectural pattern. It measures 6.6 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CORRAL 3

PLACE NUMBER	Ar/Ap.07.02	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,222
UTM EASTING	438521	LATITUDE	40° 37.882'
UTM NORTHING	4498092	LONGITUDE	44° 16.382'
PERIODIZATION	N/A		

ASSOCIATION

Aparan Corral 3 is located 0.47 km south of Korbulag village, just 100 m south of Aparan Stela 1 (map quadrant B5o).

TOPOGRAPHY

The corral was built atop a low hill in an area where small rises alternate with shallow lateral basins.

GENERAL DESCRIPTION

This corral measures 24 m in diameter and was built using both unworked basalt blocks and an outcrop of bedrock. The bedrock was utilized as one segment of the corral's arc while boulders were used to create the rest of the circle.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CORRAL 4

PLACE NUMBER	Ar/Ap.07.06	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,193
UTM EASTING	440021	LATITUDE	40° 37.871'
UTM NORTHING	4498058	LONGITUDE	44° 17.447'
PERIODIZATION	N/A		

ASSOCIATION

This construction is located 1.31 km southeast of Korbulag village (map quadrant B5p).

TOPOGRAPHY

Aparan Corral 4 is set on the flat top of a low ridge.

GENERAL DESCRIPTION

This is a small, circular corral with a diameter of 11.8 m. On its northwest side, the builders incorporated a bedrock outcrop into the outer arc of the stone ring.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

KOLGAT QUADRANT

CORRAL 1

PLACE NUMBER	Ar/Ko.18.01	ILLUSTRATION	Pl. 20
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,317
UTM EASTING	425859	LATITUDE	40° 42.008'
UTM NORTHING	4505840	LONGITUDE	44° 07.344'
PERIODIZATION	N/A		

ASSOCIATION

This corral is located 0.46 km northeast (bearing 68°) of Kolgat Settlement 1 (map quadrant D2n).

TOPOGRAPHY

This construction is set along a gentle slope on the northeastern flank of Mount Kolgat.

GENERAL DESCRIPTION

Built in a rectangular shape, this corral measures approximately 5 × 7 m. The stones used in its construction are medium blocks, averaging 50 cm square.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

KOLGAT QUADRANT (*cont.*)*CORRAL 2*

PLACE NUMBER	Ar/Ko.25.01	ILLUSTRATION	Pl. 20
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,343
UTM EASTING	424610	LATITUDE	40° 42.187'
UTM NORTHING	4506184	LONGITUDE	44° 06.455'
PERIODIZATION	N/A		

ASSOCIATION

This corral was found 0.2 km north (bearing 8°) of Kolgat Reservoir 1 (map quadrant D2m).

TOPOGRAPHY

The area is a broad open plateau overlooking the Shirak Plain to the west.

GENERAL DESCRIPTION

A rectilinear construction, this corral is built of medium stone blocks (50 square cm). At some points, the walls remain preserved to a height of 1 m.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

MANTASH QUADRANT

CORRAL 1

PLACE NUMBER	Ar/Ma.42.01	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,517
UTM EASTING	423898	LATITUDE	40° 36.104'
UTM NORTHING	4494937	LONGITUDE	44° 06.030'
PERIODIZATION	N/A		

ASSOCIATION

Just 0.55 km north (bearing 4°) of Mantash Settlement 1, Mantash Corral 1 is set in a largely isolated area (map quadrant B1d).

TOPOGRAPHY

Mantash Corral 1 is set on a cleared area of bedrock along the western slope of an elevated ridge.

GENERAL DESCRIPTION

Mantash Corral 1 is in fact two adjoining corrals. Both are defined by an irregular pile of unworked blocks encircling a cleared area of bedrock. The larger corral is 15 m in diameter while the smaller is 11 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CORRAL 2

PLACE NUMBER	Ar/Ma.49.02	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,503
UTM EASTING	425952	LATITUDE	40° 35.912'
UTM NORTHING	4494559	LONGITUDE	44° 07.490'
PERIODIZATION	N/A		

ASSOCIATION

Mantash Corral 2 is located 3.14 km southwest (bearing 228°) of Hnaberd Fortress, between Mantash Canals 13 and 8 (map quadrant B2b).

TOPOGRAPHY

This circular construction is set in a broad valley between two flowing natural watercourses.

GENERAL DESCRIPTION

The corral is 5.5–6.0 m in diameter and consists of a well-carpentered, double-faced arc of worked basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CORRAL 3

PLACE NUMBER	Ar/Ma.33.03	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,437
UTM EASTING	423432	LATITUDE	40° 36.353'
UTM NORTHING	4495402	LONGITUDE	44° 05.697'
PERIODIZATION	N/A		

ASSOCIATION

Mantash Corral 1 is located only 0.66 km to the southeast (bearing 135°) of Mantash Corral 3. Mantash Reservoir 3 is 0.43 km northeast (bearing 33°) (map quadrant B1h).

TOPOGRAPHY

Mantash Corral 3 is built near the top of a tall hill.

GENERAL DESCRIPTION

This circular construction is built of a single line of unworked basalt and tuff blocks, 9.8 m in average diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

MANTASH QUADRANT (*cont.*)*CORRAL 4*

PLACE NUMBER	Ar/Ma.26.04	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,327
UTM EASTING	422820	LATITUDE	40° 36.624'
UTM NORTHING	4495907	LONGITUDE	44° 05.258'
PERIODIZATION	N/A		

ASSOCIATION

Mantash Corral 4 is located in an area densely packed with archaeological places, 0.18 km east (bearing 106°) of Mantash Canal 5 and 0.09 km west (bearing 254°) of Mantash Isolated Architecture 12 (map quadrant B1g).

TOPOGRAPHY

This corral is set atop an elevated promontory, flanked to the east and west by moderate slopes.

GENERAL DESCRIPTION

Mantash Corral 4 is one of the smaller corrals recorded, just 7 m in diameter, built of an unworked pile of basalt and tuff blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CORRAL 5

PLACE NUMBER	Ar/Ma.47.01	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,577
UTM EASTING	423567	LATITUDE	40° 35.981'
UTM NORTHING	4494711	LONGITUDE	44° 05.797'
PERIODIZATION	N/A		

ASSOCIATION

Like Mantash Corral 1, Corral 5 is located in the vicinity of Mantash Settlement 1 (0.43 km to the southeast, bearing 137°) (map quadrant B1d).

TOPOGRAPHY

Mantash Corral 5 was built on the upper western slope of a raised outcrop. The summit of the ridge is dotted with eroded outcrops of bedrock.

GENERAL DESCRIPTION

This circular corral incorporates the erupting bedrock outcrops into its structure. Measuring 11 m in diameter, the eastern arc of the circle uses unshaped bedrock. The remainder of the construction employs unworked piles of basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CORRAL 6

PLACE NUMBER	Ar/Ma.39.01	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,479
UTM EASTING	423261	LATITUDE	40° 36.182'
UTM NORTHING	4495087	LONGITUDE	44° 05.578'
PERIODIZATION	N/A		

ASSOCIATION

Located 0.41 km northeast (bearing 65°) of Mantash Reservoir 4, Mantash Corral 6 occupies the middle position in a line of corrals that also includes Mantash Corrals 5 and 8, reaching southeast–northwest up the Aragats slope (map quadrant B1c).

TOPOGRAPHY

These constructions are set atop a hill overlooking Mantash Reservoir 4 in fairly rugged terrain of steep ridges bracketed by small valleys with flowing watercourses.

GENERAL DESCRIPTION

Two corrals are aligned in a north–south line. Both are roughly 16 m in diameter and are constructed of a double-faced curvilinear wall of faced medium basalt and tuff blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CORRAL 7

PLACE NUMBER	Ar/Ma.46.06	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,484
UTM EASTING	425977	LATITUDE	40° 36.003'
UTM NORTHING	4494727	LONGITUDE	44° 07.506'
PERIODIZATION	N/A		

ASSOCIATION

Mantash Corral 7 is located only 0.17 km northeast (bearing 8°) of Mantash Corral 2, southwest of Hnaberd Fortress (map quadrant B2b).

TOPOGRAPHY

This corral is located on a gentle north-facing slope.

GENERAL DESCRIPTION

This corral consists of a single stone wall of large cobbles with one to two rough courses remaining. Several structural stone features are present within the corral limits, suggesting a differentiation of internal space.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

MANTASH QUADRANT (*cont.*)*CORRAL 8*

PLACE NUMBER	Ar/Ma.29.02	ILLUSTRATION	Pls. 13, 81a
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,358
UTM EASTING	422722	LATITUDE	40° 36.494'
UTM NORTHING	4495671	LONGITUDE	44° 05.190'
PERIODIZATION	N/A		

ASSOCIATION

Mantash Corral 8 (pl. 81a) occupies the northwesternmost position in the line of corrals that includes Mantash Corrals 5 and 6, 1.86 km east of the Mantash River (map quadrant B1g).

TOPOGRAPHY

These constructions were built on the lower reaches of a steep slope of a high ridge, overlooking a small creek set in a deep valley.

GENERAL DESCRIPTION

Two circular stone corrals built with intermittent single and double courses of stones were constructed atop a prepared surface, providing a flat area for construction. They measure 15.6 m and 12.5 m in diameter and are 6 m apart.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

SAHAKABERD QUADRANT

CORRAL 1

PLACE NUMBER	Ar/Sk.327.04	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,375
UTM EASTING	430642	LATITUDE	40° 36.869'
UTM NORTHING	4496286	LONGITUDE	44° 10.805'
PERIODIZATION	N/A		

ASSOCIATION

This corral was recorded 0.22 km southwest (bearing 225°) of Sahakaberd Burial Cluster 12, 1.06 km southeast of the southern limits of Gekhadzor village (map quadrant B3k).

TOPOGRAPHY

This construction is set near the base of a southwest-facing slope, above a narrow flat depression with some evidence of recent cultivation. Just to the north is an area with considerable evidence of disturbance related to military exercises.

GENERAL DESCRIPTION

A circular structure 15 m in diameter, this corral is built of large, unworked basalt blocks set in a single line. Many of the blocks are submerged, but the wall does not appear to exceed 1.0–1.5 m in width.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CORRAL 2

PLACE NUMBER	Ar/Sk.340.06	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,445
UTM EASTING	29820	LATITUDE	40° 36.477'
UTM NORTHING	4495568	LONGITUDE	44° 10.226'
PERIODIZATION	N/A		

ASSOCIATION

This small corral was found 0.33 km southwest (bearing 229°) of Sahakaberd Burial Cluster 17 (map quadrant B3f).

TOPOGRAPHY

Sahakaberd Corral 2 is set on the northern slope of a small ridge bordered by a watercourse on its western flanks (the western limit of Sahakaberd survey quadrant) and a well-worn vehicle path on its eastern flank. There is considerable evidence of disturbance in the area, which may be the result of nearby military activity.

GENERAL DESCRIPTION

This oval corral is 6 m in diameter east–west × 8 m north–south. It is built of a single circle of large unworked basalt blocks set end to end. There is evidence of a gap in the rock circle on the southern end, which may represent the entryway. Several other more rectilinear lines of stones were found in the adjacent basin, but these appear to be the result of modern earth moving associated either with land amelioration programs or military activity.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

TSAGHKAHOVIT QUADRANT

CORRAL 1

PLACE NUMBER	Ar/Ts.103.01	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,327
UTM EASTING	437268	LATITUDE	40° 37.990'
UTM NORTHING	4498301	LONGITUDE	44° 15.491'
PERIODIZATION	N/A		

ASSOCIATION

This construction is located within the confines of Tsaghkahovit Burial Cluster 46 (map quadrant C5a).

TOPOGRAPHY

See entry for Tsaghkahovit Burial Cluster 46.

GENERAL DESCRIPTION

Set among the cromlechs of Tsaghkahovit Burial Cluster 46, this pie-wedge-shaped stone construction does not appear to be part of the burial cluster except in that it may have reused many of the cromlech stones. The site is composed of two straight walls (north and west) set at right angles with two curvilinear offset walls bounding the southern and eastern sides. The western wall is a 10 m long, double-faced construction with medium, worked basalt blocks set in a loose alignment. The north wall is composed of medium and large, shaped blocks in a single line of loosely fitting stones. Two arcs of irregular stones compose the southeastern boundary of the construction. One appears to intersect with the eastern end of the northern wall, extending in a single line of medium, unworked stones in a curving southwesterly direction. The other intersects with the southern end of the western wall and also

TSAGHKAHOVIT QUADRANT (*cont.*)

curves in a single line of unworked stones to the northeast. These curving walls pass one another leaving a gap of 2.1 m before ending. The irregular construction and the unique entryway suggest that the construction likely served as a corral.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CORRAL 2

PLACE NUMBER	Ar/Ts.164.03	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,200
UTM EASTING	437438	LATITUDE	40° 38.311'
UTM NORTHING	4498858	LONGITUDE	44° 15.734'
PERIODIZATION	N/A		

ASSOCIATION

This rather isolated circular construction is located 0.19 km northwest (bearing 313°) of Tsaghkahovit Settlement 1 (map quadrant C5b).

TOPOGRAPHY

This construction was built on the lower reaches of an east-facing slope which defines the western edge of a narrow defile that empties to the north into a small cart path linking Korbulag village to the Sangyar road.

GENERAL DESCRIPTION

Measuring 11.5 m in diameter at its maximum, this circular construction was built of large, loosely arranged, unworked basalt blocks (some appear to have been quarried from local cromlechs). A slight gap on the southwest corner filled with small cobbles may mark an entryway.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CORRAL 3

PLACE NUMBER	Ar/Ts.185.01	ILLUSTRATION	Pls. 19, 81b
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,080
UTM EASTING	437362	LATITUDE	40° 38.638'
UTM NORTHING	4499500	LONGITUDE	44° 15.551'
PERIODIZATION	N/A		

ASSOCIATION

This circular construction (pl. 81b) was recorded 0.65 km north (bearing 353°) of Tsaghkahovit Corral 2 and 1.22 km northwest (bearing 302°) of Korbulag village (map quadrant C5f).

TOPOGRAPHY

Tsaghkahovit Corral 3 is located on a gentle southwest-facing slope, approximately 30 m above the Tsaghkahovit Plain just below.

GENERAL DESCRIPTION

This circular construction is very well constructed with medium and large, worked basalt blocks. The circle is fairly regular with a north–south diameter of 22 m and an east–west diameter of 24 m. Some parts of the wall, visible only as a trace on the surface, appear to be double faced, but there is no evidence of an intervening rubble fill. A small (1.15 m wide) gap between the visible stones on the northern edge suggests the possibility of an entryway.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CORRAL 4

PLACE NUMBER	Ar/Ts.281.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,323
UTM EASTING	434446	LATITUDE	40° 36.834'
UTM NORTHING	4496210	LONGITUDE	44° 13.520'
PERIODIZATION	N/A		

ASSOCIATION

This corral is located 0.39 km west (bearing 273°) of Tsaghkahovit Settlement 2, on the west bank of a small watercourse, and indeed may be part of that site (map quadrant B4g).

TOPOGRAPHY

This structure was built on the southern flank of a low outcrop, just 50 m west of the watercourse, above a small flat basin.

GENERAL DESCRIPTION

This corral is defined by a well-carpentered rectilinear wall built of large, irregular basalt blocks. The wall is double faced, stone-on-stone masonry. The construction is 40 square m with no visible evidence of a doorway.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

CORRAL 5

PLACE NUMBER	Ar/Ts.286.02	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,380
UTM EASTING	434337	LATITUDE	40° 36.759'
UTM NORTHING	4496048	LONGITUDE	44° 13.426'
PERIODIZATION	N/A		

ASSOCIATION

This corral and associated features are located 0.19 km southwest (bearing 214°) of Tsaghkahovit Corral 4 (map quadrant B4f).

TOPOGRAPHY

These constructions were built on the northwestern bank of a small watercourse, on a gentle southeast-facing slope.

TSAGHKAHOVIT QUADRANT (*cont.*)

GENERAL DESCRIPTION

The main built feature at this site is a small circular corral, 16 m in diameter. It is constructed of a single line of large unworked boulders set end to end. On the northern end of this construction is a shallow circular pit, 4.5 m in diameter, enclosed by a well-made, double-faced curvilinear wall. An entrance to this “room,” 80 cm wide, is visible on the northern perimeter.

ASSOCIATED FEATURES AND MATERIALS

Two indeterminate sherds were found in the area of these structures. Morphologically, it is likely that the pit house and adjacent corral were built during the sixteenth–nineteenth centuries A.D. as small pasture dwellings; however, a more certain dating must await excavation.

CORRAL 6

PLACE NUMBER	Ar/Ts.293.02	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,365
UTM EASTING	434461	LATITUDE	40° 36.708'
UTM NORTHING	4495952	LONGITUDE	44° 13.502'
PERIODIZATION	N/A		

ASSOCIATION

This set of constructions is located 0.15 km southeast (bearing 140°) of Tsaghkahovit Corral 5 (map quadrant B4g).

TOPOGRAPHY

This cluster of circular constructions is set on a triangular promontory bound to the north and east by watercourses set in small ravines. To the south, a small informal track cuts between the promontory and a field of exposed basalt boulders.

GENERAL DESCRIPTION

Tsaghkahovit Corral 6 consists of two sets of two structures 18 m apart. The largest construction is vaguely rectilinear, 12 m in diameter, with rounded corners. The adjacent structure is only 4 m in diameter with an entryway on the northern perimeter marked by a large standing basalt pillar. The walls of both structures are made of double-faced, shaped basalt blocks. The second (northeastern) pair of structures are 4.5 and 4.8 m in diameter respectively. Both are made of single-faced boulders set end to end. Overall, these latter two constructions have a more informal feel to them than the former pair.

ASSOCIATED FEATURES AND MATERIALS

No surface materials, but it is likely that these structures are contemporary with Tsaghkahovit Corral 5 and thus datable to the sixteenth–nineteenth centuries A.D.

CORRAL 7

PLACE NUMBER	Ar/Ts.303.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,401
UTM EASTING	433845	LATITUDE	40° 36.654'
UTM NORTHING	4495858	LONGITUDE	44° 13.079'
PERIODIZATION	N/A		

ASSOCIATION

This circular construction is located 0.62 km west (bearing 261°) of Tsaghkahovit Corral 6, adjacent to Tsaghkahovit Burial Cluster 97 (map quadrant B4f).

TOPOGRAPHY

This structure was placed along what appears to be a modern pathway that extends from Tsaghkahovit village, south up the slopes of Mount Aragats. Adjacent to the small basin that hosts Tsaghkahovit Burial Cluster 97, the terrain surrounding Tsaghkahovit Corral 7 is far rockier, with large boulders and outcrops of eroded bedrock punctuating this south-facing slope.

GENERAL DESCRIPTION

Tsaghkahovit Corral 7 occupies the southern slope of a small conical hill. It is 22 m in diameter north–south × 18 m east–west. It has no clearly defined entryway but does have a small attached antechamber on its southern perimeter, 4.5 m in diameter. While the larger structure is built of unshaped, large, irregular basalt blocks set in a single row, the antechamber appears to be more robust and may have been built of double-faced walls. To the east, a second, much smaller structure was recorded on the south slope of the adjacent hill, 72 m to the east. It is more rectilinear, 12.5 m square, with well-carpentered wall lines.

ASSOCIATED FEATURES AND MATERIALS

A single undiagnostic sherd was recovered from within the main structure.

FORTRESSES

ARAGATSIBERD

FORTRESS

PLACE NUMBER	Ar/Ab	ILLUSTRATION	Figs. 45–46, 47; Pls. 22,
UTM QUADRANT	38T		25, 42, 69a
UTM EASTING	439611	ELEVATION (M A.S.L.)	2,176
UTM NORTHING	4505230	LATITUDE	40° 41.746′
PERIODIZATION	Early Bronze, Late Bronze/Iron I	LONGITUDE	44° 17.114′

ASSOCIATION

The fortress of Aragatsiberd (pls. 22, 25, 42, 69a) lies along the eastern margin of the Tsaghkahovit Plain, at the intersection of the modern Yerevan–Spitak road which traverses the Pambak Pass, and the Sipan (Pamb-Kurdsii) Canyon road which traverses the Spitak Pass. The fortress lies 5.18 km southeast (bearing 102°) of Gegharot Fortress and 7.96 km northeast (bearing 36°) of Tsaghkahovit Fortress (map quadrant D51).

TOPOGRAPHY

Set atop an eroded conical outcrop, Aragatsiberd commands dramatic views over the eastern Tsaghkahovit Plain, including the upper Kasakh Canyon to the south and Sipan Canyon to the north. The outcrop is highly eroded, particularly on its southern edge, and has been destroyed in parts by modern construction on the summit.

GENERAL DESCRIPTION

Despite the damage to the site, several segments of stone masonry walls are visible from the surface, along with a significant concentration of ceramic debris.

ARAGATSIBERD QUADRANT (*cont.*)

ASSOCIATED FEATURES AND MATERIALS

The volume of surface finds, especially ceramics, from Aragatsiberd (figs. 45–46, 47) was quite high compared to similarly sized sites such as Berdidosh or Tsilkar ($n = 84$), undoubtedly a result of the digging associated with the modern construction. The materials were classifiable into two periods of occupation: the Early Bronze Age (18 sherds) and the Late Bronze III/Iron Ia (34 sherds) (see fig. 65). No spatial patterning in the distribution of sherds on the site could be effectively defined, although, unsurprisingly, the density of materials increased near the modern spoil heaps. See Avetisyan, Badalyan, and Smith 2000: 30.

Figure 45. Surface Materials from Aragatsiberd Fortress: Group A (Ceramic Details)

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>
<i>Locus</i>	Ts/AB Surface	Ts/AB Surface	Ts/AB Surface	Ts/AB Surface	Ts/AB Surface	Ts/AB Surface	Ts/AB Surface
<i>Sherd No.</i>	106	105	102	100	104	101	103
<i>Period</i>	A*	A	A	A	A	A	A
<i>Fragment</i>	Rim– Shoulder	Rim– Shoulder	Shoulder	Shoulder	Rim	Rim	Rim
<i>Form</i>	Closed Jar	Closed Jar	Closed Jar	Closed Jar	Jar	Jar	Jar
<i>Rim Variant</i>	Ledge	Rounded Flared	—	—	Ledge- indented	—	—
<i>Exterior Color</i>	Gray	Gray	Gray	Gray	Buff	Gray	Gray
<i>Interior Color</i>	Gray	Gray	Gray	Black	Buff	Gray	Gray
<i>Fabric Color</i>	Black	Gray	Gray	Gray	Buff	Black	Gray
<i>Inclusions</i>	Medium– Coarse	Medium– Coarse	Medium	Medium	Medium	Medium	Medium
<i>Slip</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Surface Treatment</i>	Smoothed	Smoothed	Polished	Polished	Smoothed	Polished	Smoothed
<i>Rim Diameter / Percent</i>	22.0 cm / 35%	23.0 cm / 20%	—	—	N/A	—	—

* Group A = Late Bronze I–Iron I; see table 1.

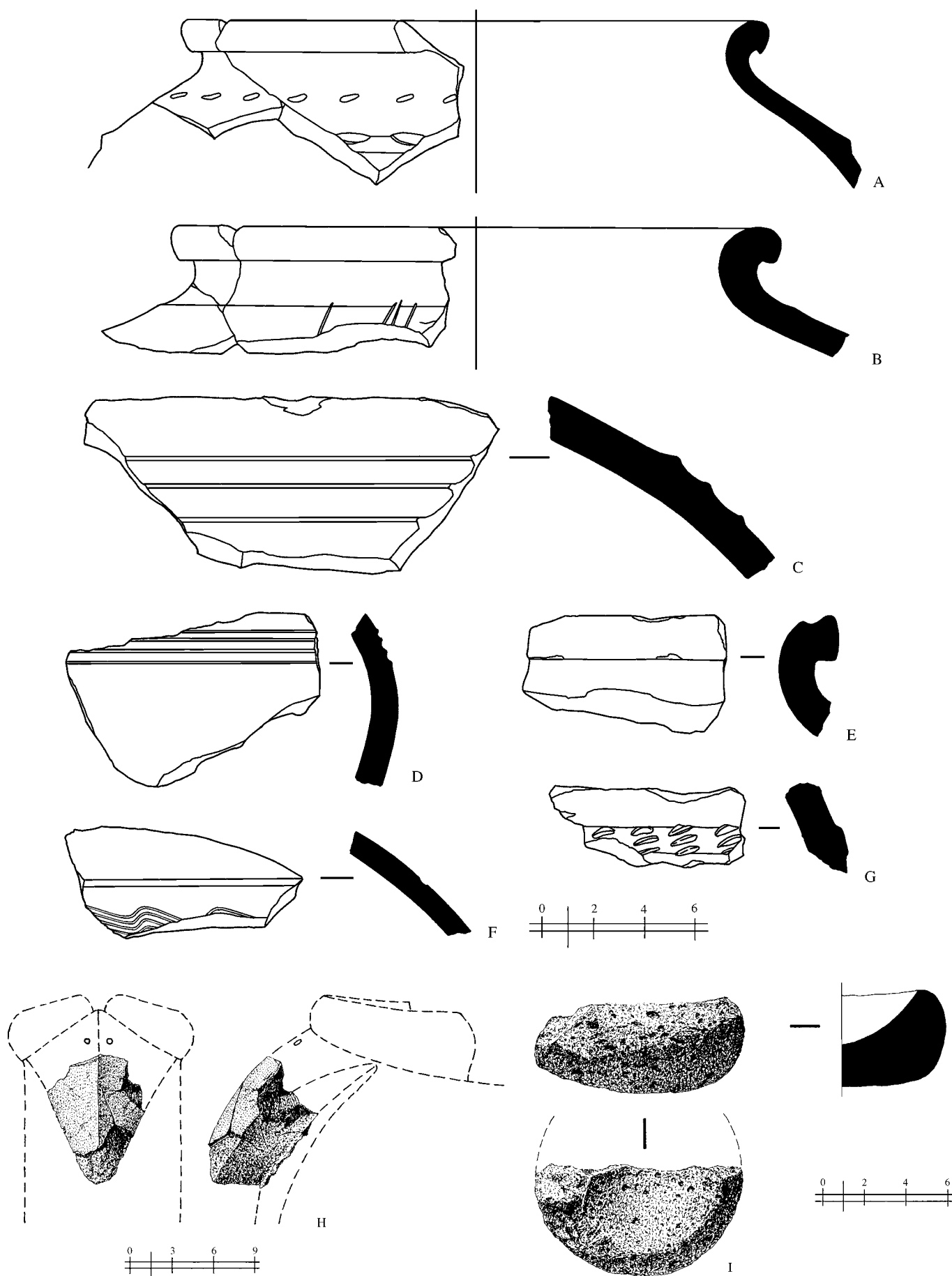


Figure 45. Surface Materials from Aragatsiberd Fortress:
 (a-g) Group A Ceramics, (h) Early Bronze Zoomorphic Andiron Fragment, and (i) Tuff Groundstone Fragment

Figure 46. Surface Materials from Aragatsiberd Fortress: Early Bronze and Late Bronze III/Iron Ia Ceramics

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>
<i>Locus</i>	Ts/AB Surface	Ts/AB Surface	Ts/AB Surface	Ts/AB Surface	Ts/AB Surface	Ts/AB Surface	Ts/AB Surface
<i>Sherd No.</i>	2	6	4	5	7	1	3
<i>Period</i>	Early Bronze	Late Bronze III/Iron Ia	Early Bronze	Late Bronze III/Iron Ia	Late Bronze III/Iron Ia	Early Bronze	Early Bronze
<i>Fragment</i>	Rim	Rim	Rim	Rim	Rim	Rim	Rim
<i>Form</i>	Closed Jar	Closed Jar	Closed Jar	Closed Jar	Pithos	Closed Jar	Closed Jar
<i>Rim Variant</i>	Flat	Band	Flat	Ledge	Flat	Straight Everted	Straight Flared
<i>Exterior Color</i>	Black	Buff	Brown	Gray	Buff	Black	Brown
<i>Interior Color</i>	Brown	Buff	Brown	Buff	Buff	Brown	Brown
<i>Fabric Color</i>	Black/Brown	Gray	Gray	Gray	Buff	Black/Brown	Gray
<i>Inclusions</i>	Medium	Medium	Medium	Medium–Coarse	Medium–Coarse	Medium	Medium
<i>Slip</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Surface Treatment</i>	Polished	Polished	Polished	Smoothed	Smoothed	Polished	Polished
<i>Rim Diameter / Percent</i>	40.0 cm / 8%	N/A	N/A	22.0 cm / 9%	34.0 cm / 6%	N/A	N/A

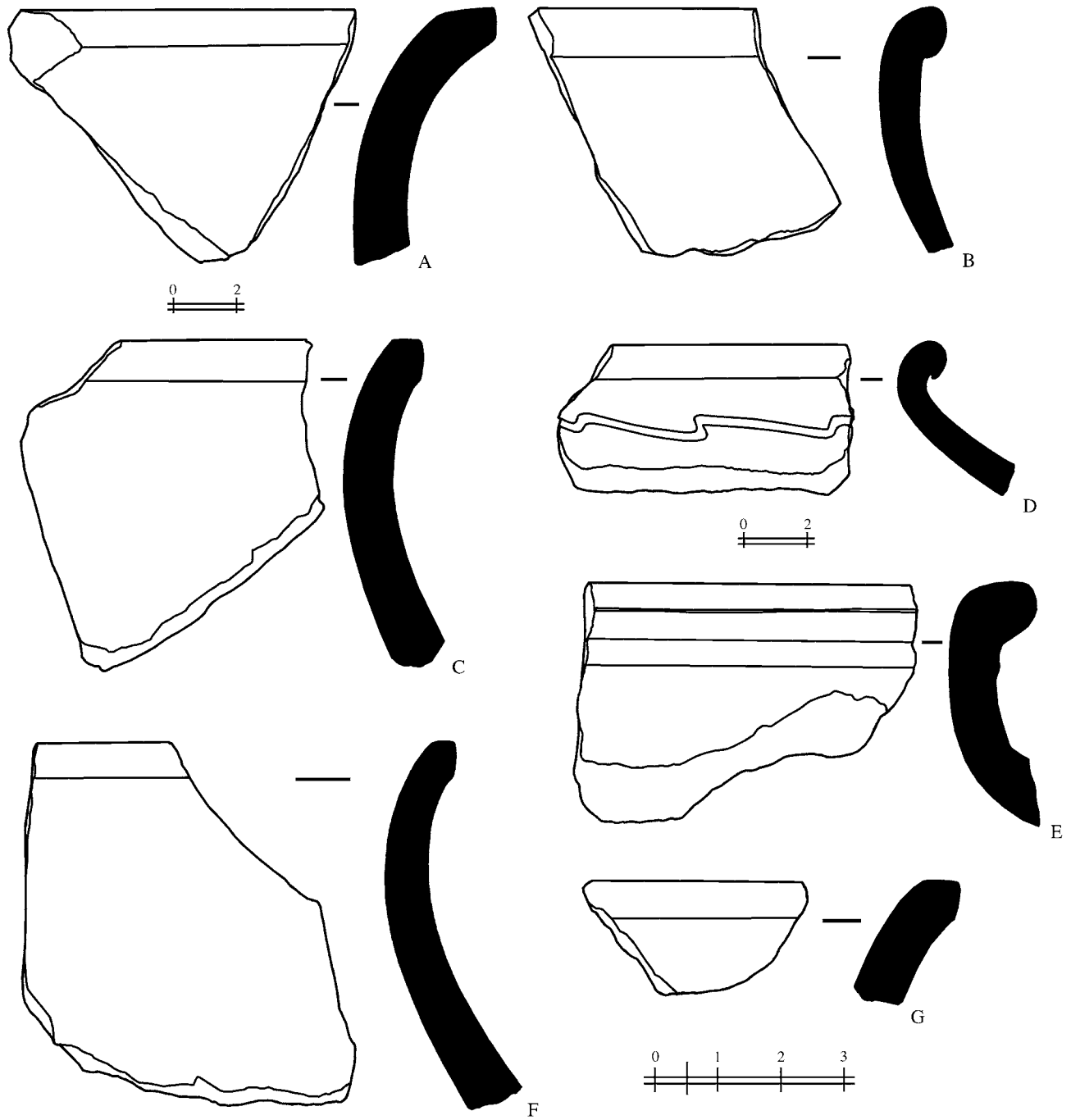


Figure 46. Surface Materials from Argatsiberd Fortress:
 (a, c, f-g) Early Bronze Ceramics and (b, d-e) Late Bronze III/Iron Ia Ceramics

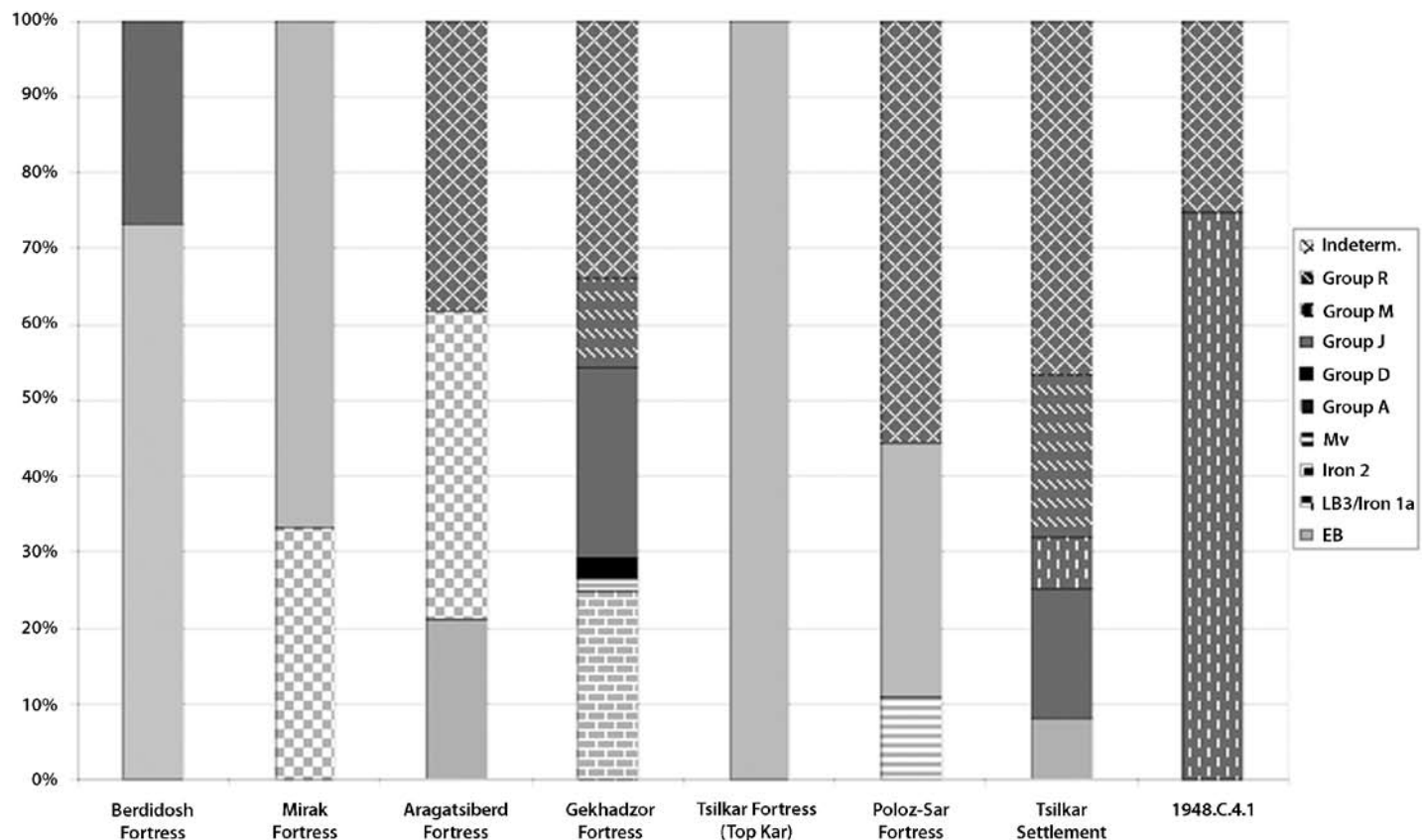


Figure 47. Surface Ceramic Counts by Site for Single Collection Locus Sites

ASHOT-YERKAT

FORTRESS

PLACE NUMBER	Ar/AY	ILLUSTRATION	Pls. 24, 26, 39, 68c
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,407
UTM EASTING	434919	LATITUDE	40° 43.455'
UTM NORTHING	4508405	LONGITUDE	44° 13.760'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Ashot-Yerkat (pl. 68c) Fortress was built atop a high peak 1.6 km north of Gegharot, providing the site with clear views across the Tsaghkahovit Plain and the northern reaches of the Aparan basin (map quadrant E4k).

TOPOGRAPHY

The fortress occupies a rocky, highly eroded, elliptical citadel, elongated along an east–west axis. The north slope is exceptionally steep and practically inaccessible. The southwest slope hosts a large cromlech cemetery (Gegharot Burial Cluster 3) that extends up to the fortification wall. The walls enclose no more than 0.15 ha.

GENERAL DESCRIPTION

Ashot-Yerkat is a small “outpost” fortress consisting of only two lines of visible walls (pls. 26, 39). The first is curvilinear and droops in a semi-circle around the southern slope. The second wall cuts across the summit of the citadel connecting the ends of the former. The entire construction is shaped in a half-moon. The curvilinear wall segment remains in relatively good condition, with large stone blocks preserved in three to five irregular courses. The masonry is generally cyclopean, with incidentally shaped stones piled atop one another without mortar.

ASSOCIATED FEATURES AND MATERIALS

No surface materials were recovered during survey in 2000 or a re-visit to the site in 2004. Dating of the site to the Late Bronze/Iron Age I is based on both the similarity in fortification construction to adjacent sites at Gegharot, Tsilkar, and Poloz-Sar and the position of the site within a hypothesized Pambak fortification system. See Badalyan, Smith, and Aretisyan 2003; Smith et al. 2004.

BERDIDOSH

FORTRESS

PLACE NUMBER	Ar/Bd	ILLUSTRATION	Fig. 47; Pls. 23, 37, 68a
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,209
UTM EASTING	431033	LATITUDE	40° 44.301'
UTM NORTHING	4510034	LONGITUDE	44° 10.991'
PERIODIZATION	Late Bronze/Iron I, Iron III(?)		

ASSOCIATION

Located 1.5 km east–southeast of the village of Lernapar, Berdidosh Fortress (pl. 68a) is the northernmost of the Late Bronze Age sites in the Tsaghkahovit Plain. It is located 5.08 km northwest of Gegharot Fortress (bearing 316°), 1.86 km northwest along the Lernapar road after its split from the main Yerevan–Spitak road (map quadrant E3o).

TOPOGRAPHY

Berdidosh Fortress is set on a conical rock outcrop in the northern Pambak hills (pl. 37). The location provides excellent views across most of the Tsaghkahovit Plain and along the Pambak Pass leading to the Lori-Spitak region. At the pinnacle, weathered bedrock juts from the surrounding earth. But soil deposits appear to be significant in other parts of the summit as the fortification wall served to slow erosion.

GENERAL DESCRIPTION

The fragmentary remains of a circumferential line of stone fortifications encircle approximately 2.1 square km of the hill's summit. Although not visible from the surface for its entire extent, the fortification wall is clearly visible in the available aerial photo, where it has a perimeter of 203 m and an irregular ellipsoid form. The masonry of the visible exposures of wall employed medium stones (maximum diameter less than 50 cm, greater than 15 cm) without evidence of mortar or intervening rubble fill. The stones are lightly worked on both faces of the wall but are not set in even courses.

ASSOCIATED FEATURES AND MATERIALS

The surface artifacts recovered from Berdidosh were very limited (fig. 65) and concentrated primarily on both sides of the western arc of the fortification wall. Of seventeen sherds collected during visits to the site in 1998 and 2004, thirteen were classifiable to Group A (Late Bronze/Iron Age I) while four were assigned to Group J (Iron IIb–Iron IIIa). A significant quantity of obsidian flakes was also noted along the middle and upper slopes. See Avetisyan, Badalyan, and Smith 2000.

GEGHAROT

FORTRESS

PLACE NUMBER	Ar/Ge	ILLUSTRATION	Figs. 47–54; Pls. 24,
UTM QUADRANT	38T		27, 41, 67b
UTM EASTING	434555	ELEVATION (M A.S.L.)	2,155
UTM NORTHING	4506367	LATITUDE	40° 42.337′
PERIODIZATION	Early Bronze, Late Bronze, Iron III	LONGITUDE	44° 13.516′

ASSOCIATION

The fortress of Gegharot (pl. 67b) is located on a rounded hill just east of the modern village of Gegharot, on the north side of the Yerevan–Spitak road. The site is 7.95 km north (bearing 358°) of Tsaghkahovit Fortress and 11.8 km northeast (bearing 34°) of Hnaberd Fortress (map quadrants E4c and D4o).

TOPOGRAPHY

The fortress of Gegharot sits atop a high outcrop on the northeastern edge of the Tsaghkahovit Plain on a terminal spur of the Pambak range. The site (as defined by the surface materials) covers an area of approximately 3.43 ha, but the fortification walls circumscribe only the 0.36 ha citadel (pls. 27, 41). The citadel is highly eroded, with weathered bedrock visible at a number of places. The fortress hill and the surrounding territory are composed of the Gegharot granite intrusion of the lower Cretaceous age. Dikes of granite-aplite, diorite, and gabbro composition break through the intrusion. These dikes are 1.5–2.0 km long and 0.10–2.00 m wide. Within the contact zone of the Gegharot intrusion, calcareous skarns and hornfels have developed and there is evidence of over-crystallization and silification of rocks. The western slope of Gegharot Fortress has a grade of 25–29 percent and is almost completely eroded with a soil level of approximately 50 cm except where subsurface architectural remains have contributed to the buildup of deeper deposits (geological description by A. Karakhanyan and Georisk). At its base, the west slope is cut by a sharp escarpment created by modern construction of Gegharot village exacerbated by continuing erosion. Evidence from accidental finds in the village and our 2002 investigations indicate that this construction activity has destroyed part of the Early Bronze Age site, disturbing both settlement and mortuary features. To the west, the salvage excavations conducted by Martirosyan and later Esaian indicate that the expansion of the modern village has also intruded on the territory of a Late Bronze Age cemetery to the west of the modern road (M3).

GENERAL DESCRIPTION

The constructions known from the site at present were made primarily from the local granite of the Gegharot intrusion and in small part from basalt (which may have come from the Kolgat massif on the western edge of the plain). Additionally, a very small percent of the building material at the site comes from limestone deposits found locally in contact with the Gegharot granite intrusion. Only the top course of the fortification wall is visible from the surface. While this circumferential wall remains preserved to a height of several courses on the north end of the citadel, on the south end much of the wall has been destroyed. The layout of the walls suggests the presence of a gateway on the northwest side of the site as well as several possible buttresses.

ASSOCIATED FEATURES AND MATERIALS

The surface remains recovered from Gegharot (figs. 48–54) include a large basalt grinding stone as well as a large quantity of fragmentary ceramics ($n = 522$). Examination of the total corpus of ceramic remains from the site indicated 62 percent of the materials were broadly classifiable to Group A (Late Bronze/Iron Age I) with 3 percent more specifically indicative of the Late Bronze Age III phase; 31 percent of the ceramics were attributable to the Early Bronze Age, including a group of decorated sherds diagnostic of the Kura-Araxes III phase. The remainder of the ceramic materials were classified to Group J (Iron IIb–Iron IIIa). The Early Bronze Age remains at the site were concentrated primarily, but not exclusively, on the northern and eastern slopes. The Group J materials were concentrated on the eastern side of the hill and may relate more to Gegharot Settlement than the fortress. The archaeological complex at Gegharot was first identified by Martirosyan (1964: 23), who recorded scatters of Early Bronze Age surface materials, a cyclopean fortress, and a cemetery. However, only the cemetery became a focus

for more intensive research. In 1956 Martirosyan (1964: 89–93) excavated five Late Bronze Age burials; in 1960 Esaian investigated three more (unpublished). See Avetisyan, Badalyan, and Smith 2000; Badalyan, Smith, and Avetisyan 2003; and Smith et al. 2004.

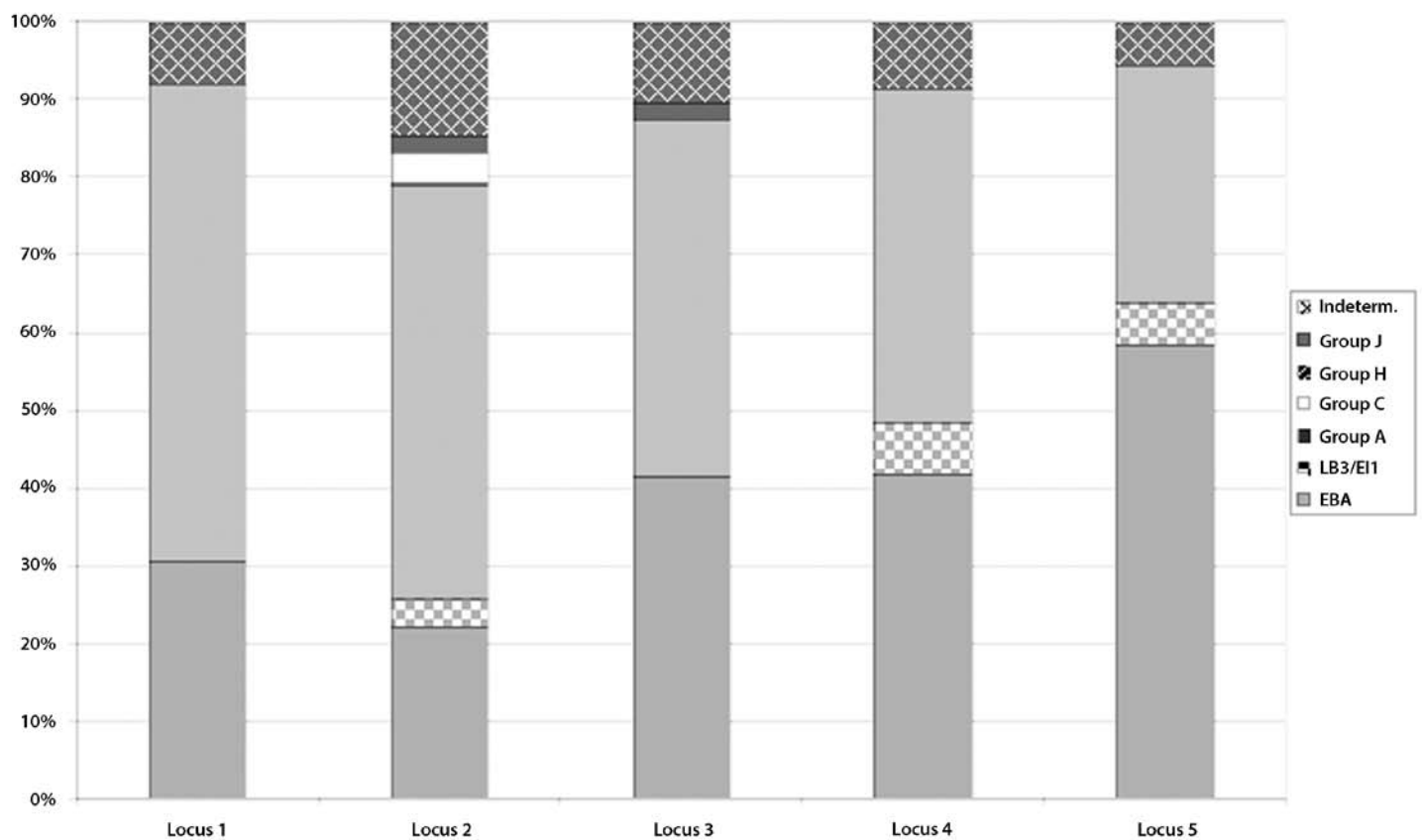


Figure 48. Gegharot Fortress Surface Ceramic Counts

Figure 49. Surface Materials from Gegharot Fortress: Early Bronze Ceramics

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>
<i>Locus</i>	Surface 1	Surface 1	Surface 3	Surface 3	Surface 3	Surface 3	Surface 5	Surface 5
<i>Sherd No.</i>	1	2	1	5	6	7	1	2
<i>Period</i>	Early Bronze	Early Bronze	Early Bronze	Early Bronze	Early Bronze	Early Bronze	Early Bronze	Early Bronze
<i>Fragment</i>	Neck–Rim	Shoulder	Rim–Shoulder	Rim	Rim	Complete Profile	Shoulder	Rim
<i>Form</i>	Closed Jar	Jar	Closed Jar	Closed Jar	Pot Stand	Large Bowl	Jar	Open Jar
<i>Rim Variant</i>	Rounded Everted	—	Square	Square	Flat	Flat	—	Square
<i>Exterior Color</i>	Black	Brown	Gray	Black	Black	Black	Buff	Buff
<i>Interior Color</i>	Orange	Brown	Brown	Brown	Orange	Brown	Buff	Buff
<i>Fabric Color</i>	Gray	Gray	Gray	Brown	Brown	Brown	Gray	Gray
<i>Inclusions</i>	Medium	Medium	Coarse	Medium	Medium	Medium	Medium	Medium
<i>Slip</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Surface Treatment</i>	Polished	Polished	Polished	Polished	Polished	Polished	Polished	Smoothed
<i>Rim Diameter / Percent</i>	28.0 cm / 9%	—	27.0 cm / 20%	>50.0 cm	—	40.0 cm / 13%	—	16.0 cm / 5%

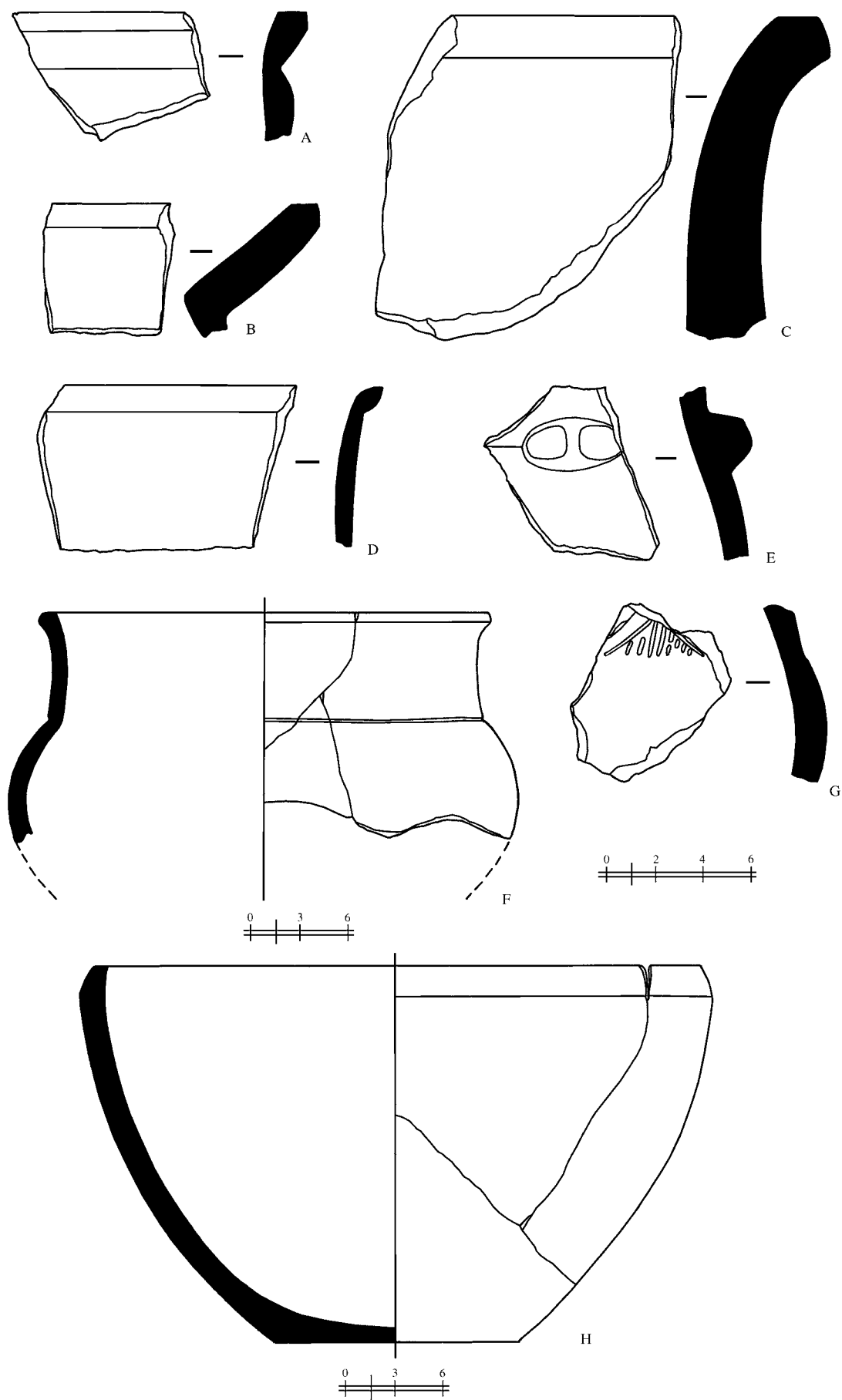


Figure 49. Surface Materials from Gegharot Fortress: Early Bronze Ceramics

Figure 50. Surface Materials from Gegharot Fortress: Early Bronze (Karnut-Shengavit Group) Ceramics

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>	<i>i</i>
<i>Locus</i>	Surface 2	Surface 3	Surface 2	Surface 2	Surface 3	Surface 2	Surface 3	Surface 2	Surface 2
<i>Sherd No.</i>	2	2	4	5	3	6	4	3	1
<i>Period</i>	Early Bronze	Early Bronze	Early Bronze	Early Bronze	Early Bronze	Early Bronze	Early Bronze	Early Bronze	Early Bronze
<i>Fragment</i>	Shoulder	Rim–Shoulder	Rim	Rim	Shoulder	Rim	Shoulder	Lug	Base
<i>Form</i>	Jar	Closed Jar	Closed Jar	Closed Jar	Closed Jar	Closed Jar	—	—	Open Jar
<i>Rim Variant</i>	—	Flared	Ledge	Ledge	—	Ledge	—	—	—
<i>Exterior Color</i>	Black	Black	Brown	Brown	Black	Black	Black	Buff	Brown
<i>Interior Color</i>	Orange	Brown	Brown	Brown	Brown	Brown	Orange	Brown	Brown
<i>Fabric Color</i>	Brown	Black	Orange	Brown	Black	Buff	Brown	Gray	Buff
<i>Inclusions</i>	Medium	Fine	Medium	Medium	Fine	Medium–Coarse	Medium	Medium	Medium
<i>Slip</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Surface Treatment</i>	Polished	Polished	Polished	Polished	Polished	Polished	Polished	Polished	Polished
<i>Rim Diameter / Percent</i>	—	12.0 cm / 6%	16.0 cm / 12%	22.0 cm / 9%	—	14.0 cm / 6%	—	14.0 cm / 11%	—

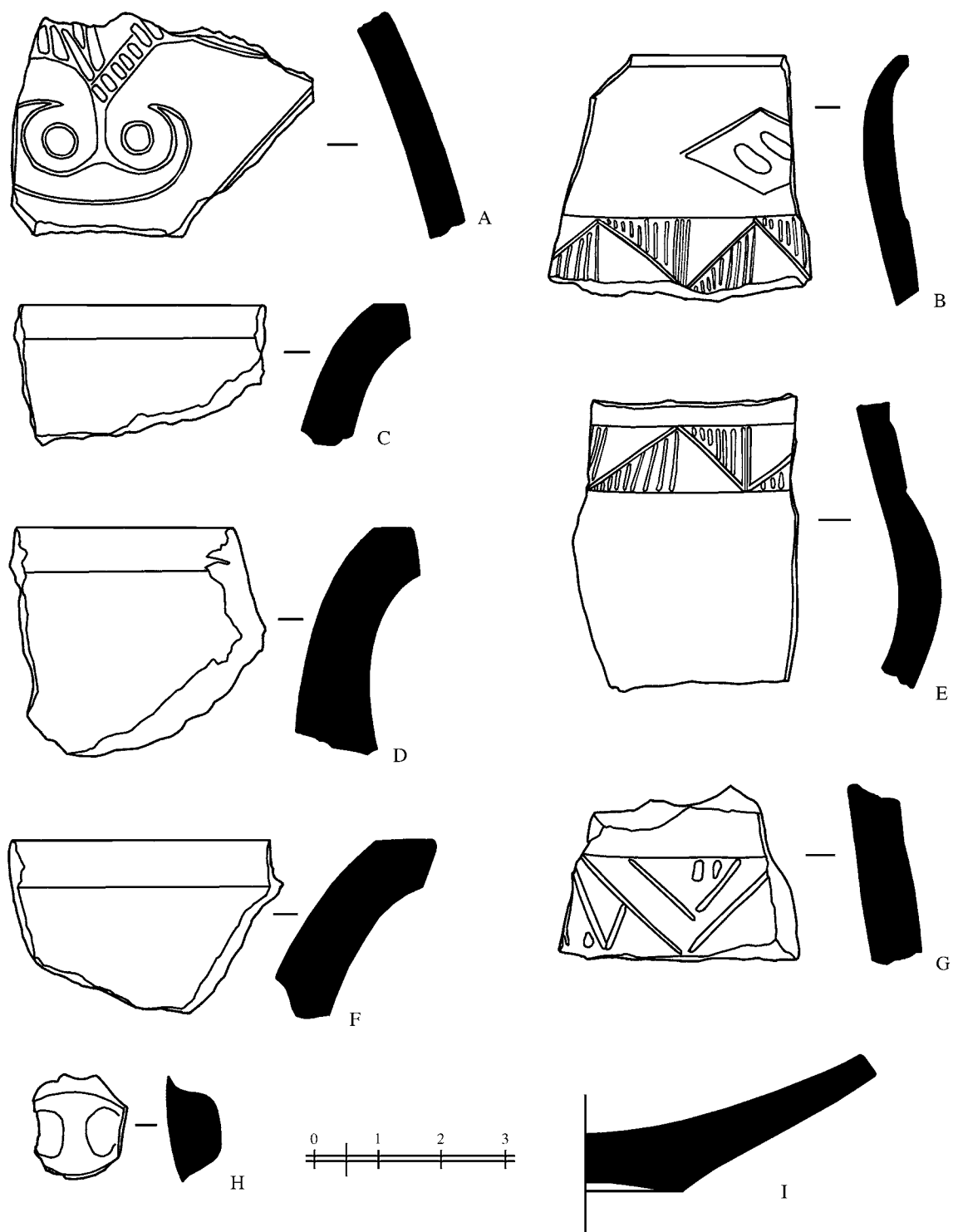


Figure 50. Surface Materials from Gegharot Fortress:
Early Bronze (Karnut-Shengavit Group) Ceramics

Figure 51. Surface Materials from Gegharot Fortress: Late Bronze III and Late Bronze III/Iron Ia Ceramics

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>	<i>i</i>
<i>Locus</i>	Surface 4	Surface 4	Surface 2	Surface 2	Surface 4	Surface 2	Surface 2	Surface 2	Surface 4
<i>Sherd No.</i>	7	8	23	27	10	26	25	24	9
<i>Period</i>	Late Bronze III/ Iron Ia	Late Bronze III/ Iron Ia	Late Bronze III	Late Bronze III	Late Bronze III/ Iron Ia	Late Bronze III	Late Bronze III	Late Bronze III	Late Bronze III/ Iron Ia
<i>Fragment</i>	Shoulder	Shoulder	Rim	Rim	Rim	Rim–Neck	Rim	Rim	Base
<i>Form</i>	Jar	Jar	Closed Jar	Closed Jar	Closed Jar	Closed Jar	Closed Jar	Closed Jar	Closed Jar
<i>Rim Variant</i>	—	—	Ledge	Rolled	Flared Ledge	Rounded Everted	Rounded Everted	Rolled and Flared	—
<i>Exterior Color</i>	Orange	Brown	Gray	Orange	Brown	Gray	Brown	Black	Gray
<i>Interior Color</i>	Orange	Brown	Buff	Orange	Brown	Gray	Buff	Buff	Buff
<i>Fabric Color</i>	Orange	Brown	Brown	Gray	Gray	Black	Gray	Gray	Buff
<i>Inclusions</i>	Medium– Coarse	Medium– Coarse	Medium– Coarse	Medium– Coarse	Medium– Coarse	Medium– Coarse	Medium– Coarse	Medium	Medium– Coarse
<i>Slip</i>	—	Brown	Gray	Orange	Brown	Gray	Buff	Buff	Gray
<i>Surface Treatment</i>	Smoothed	Smoothed	Polished	Smoothed	Smoothed	Polished	Smoothed	Polished	Smoothed
<i>Rim Diameter / Percent</i>	—	—	18.0 cm / 7%	16.0 cm / 8%	16.0 cm / 7%	12.0 cm / 10%	16.0 cm / 10%	12.0 cm / 16%	—

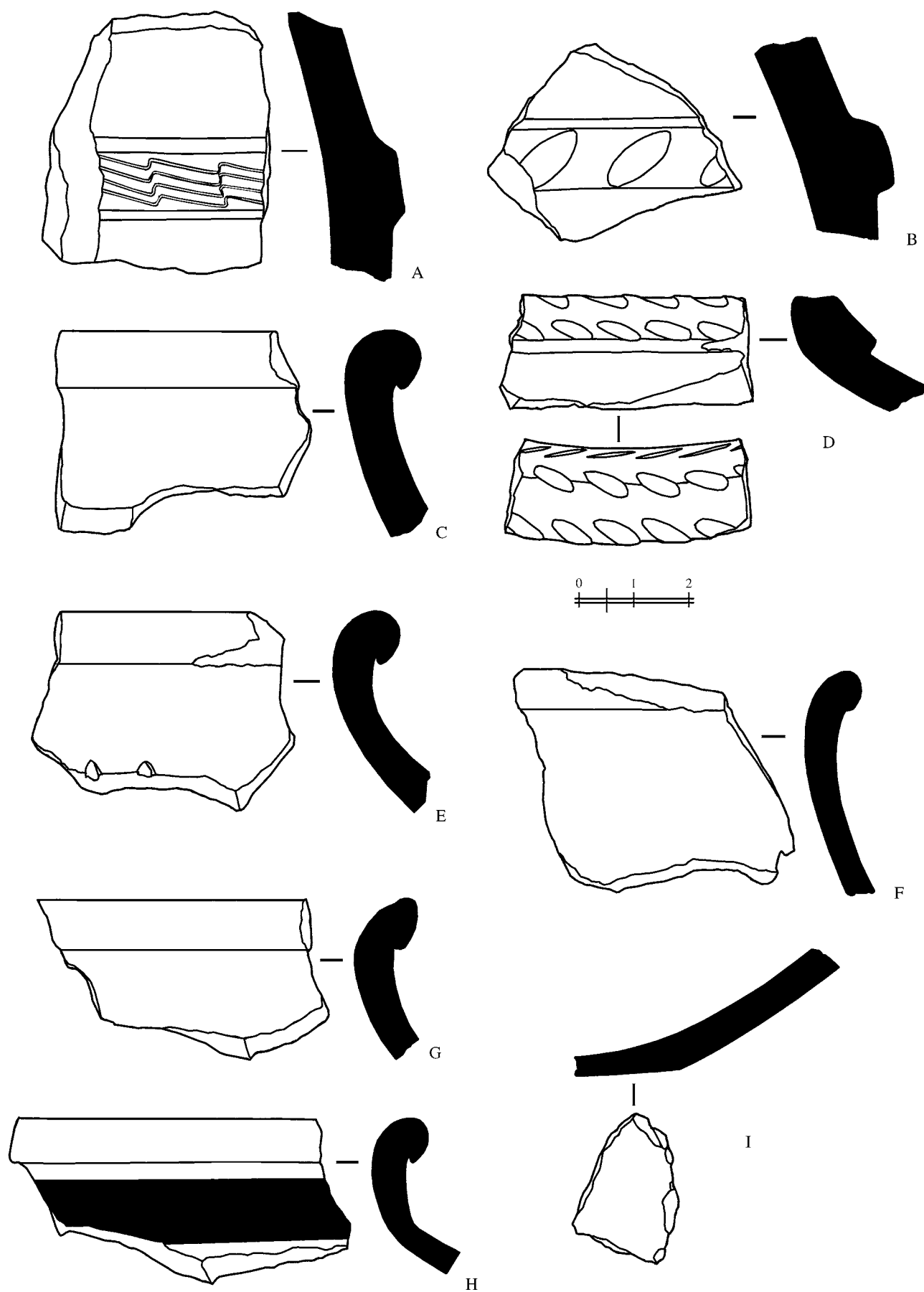


Figure 51. Surface Materials from Gegharot Fortress:
(c-d, f-h) Late Bronze III and (a-b, e, i) Late Bronze III/Iron Ia Ceramics

Figure 52. Surface Materials from Gegharot Fortress: Group A Ceramics

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>	<i>i</i>	<i>j</i>	<i>k</i>	<i>l</i>
<i>Locus</i>	Surface 3	Surface 1	Surface 2	Surface 1	Surface 2	Surface 2	Surface 2	Surface 1	Surface 2	Surface 4	Surface 4	Surface 5
<i>Sherd No.</i>	11	5	11	4	14	10	12	8	13	5	4	9
<i>Period</i>	A*	A	A	A	A	A	A	A	A	A	A	A
<i>Fragment</i>	Rim	Rim	Rim	Rim	Rim	Rim	Rim	Rim	Rim	Rim	Rim	Rim
<i>Form</i>	Closed Jar	Closed Jar	Closed Jar	Closed Jar	Closed Jar	Closed Jar	Closed Jar	Closed Jar	Bowl	Bowl	Closed Jar	Closed Jar
<i>Rim Variant</i>	Rounded	Band	Band	Band	Rounded Flared	Band	Rounded Everted	Rounded Everted	Straight	Straight Flat	Rolled	Rounded Everted
<i>Exterior Color</i>	Brown	Brown	Brown	Buff	Buff	Brown	Buff	Buff	Brown	Orange	Gray	Gray
<i>Interior Color</i>	Gray	Brown	Gray	Brown	Buff	Brown	Brown	Buff	Brown	Orange	Brown	Brown
<i>Fabric Color</i>	Gray	Brown	Brown	Gray	Brown	Gray	Gray	Brown	Gray	Orange	Gray	Gray
<i>Inclusions</i>	Medium	Medium–Coarse	Medium	Medium	Medium	Medium	Medium–Coarse	Medium	Medium	Medium–Coarse	Medium	Medium–Coarse
<i>Slip</i>	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Surface Treatment</i>	Polished	Smoothed	Polished	Smoothed	Smoothed	Smoothed	Smoothed	Polished	Polished	Polished	Polished	Polished
<i>Rim Diameter / Percent</i>	—	16.0 cm / 7%	—	14.0 cm / 6%	—	34.0 cm / 8%	—	20.0 cm / 7%	—	16.0 cm / 6%	25.0 cm / 10%	21.0 cm / 8%

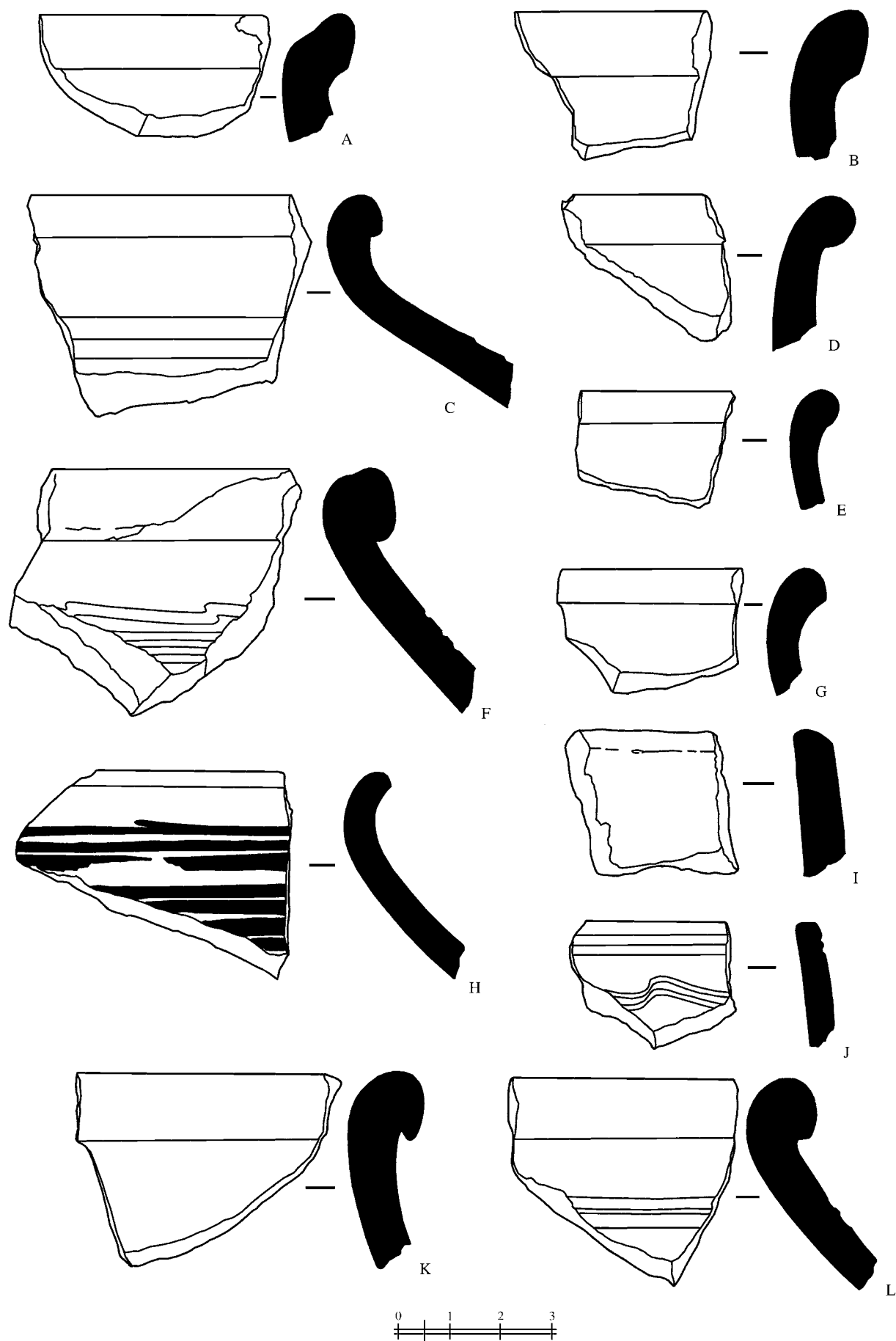


Figure 52. Surface Materials from Gegharot Fortress: Group A Ceramics

Figure 53. Surface Materials from Gegharot Fortress: Group A Ceramics

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>
<i>Locus</i>	Surface 3	Surface 1	Surface 1	Surface 1	Surface 2	Surface 2	Surface 2	Surface 2
<i>Sherd No.</i>	12	3	10	9	16	15	9	17
<i>Period</i>	A*	A	A	A	A	A	A	A
<i>Fragment</i>	Shoulder	Shoulder	Shoulder	Shoulder	Shoulder	Rim– Shoulder	Shoulder	Rim– Shoulder
<i>Form</i>	Closed Jar	Jar	Jar	Jar	Closed Jar	Closed Jar	Closed Jar	Closed Jar
<i>Rim Variant</i>	—	—	—	—	—	Ledge	—	Rolled and Flared
<i>Exterior Color</i>	Brown	Buff	Brown	Gray	Brown	Orange	Orange	Olive
<i>Interior Color</i>	Brown	Brown	Brown	Gray	Orange	Brown	Brown	Brown
<i>Fabric Color</i>	Gray	Brown	Brown	Gray	Gray	Brown	Brown	Brown
<i>Inclusions</i>	Medium	Medium– Coarse	Medium	Medium– Coarse	Medium	Medium	Medium– Coarse	Medium
<i>Slip</i>	Brown	Buff	Brown	Gray	Brown	Orange	Orange	Olive
<i>Surface Treatment</i>	Smoothed	Smoothed	Smoothed	Smoothed	Polished	Polished	Smoothed	Polished
<i>Rim Diameter / Percent</i>	—	—	—	—	—	—	—	—

* Group A = Late Bronze I–Iron I; see table 1.

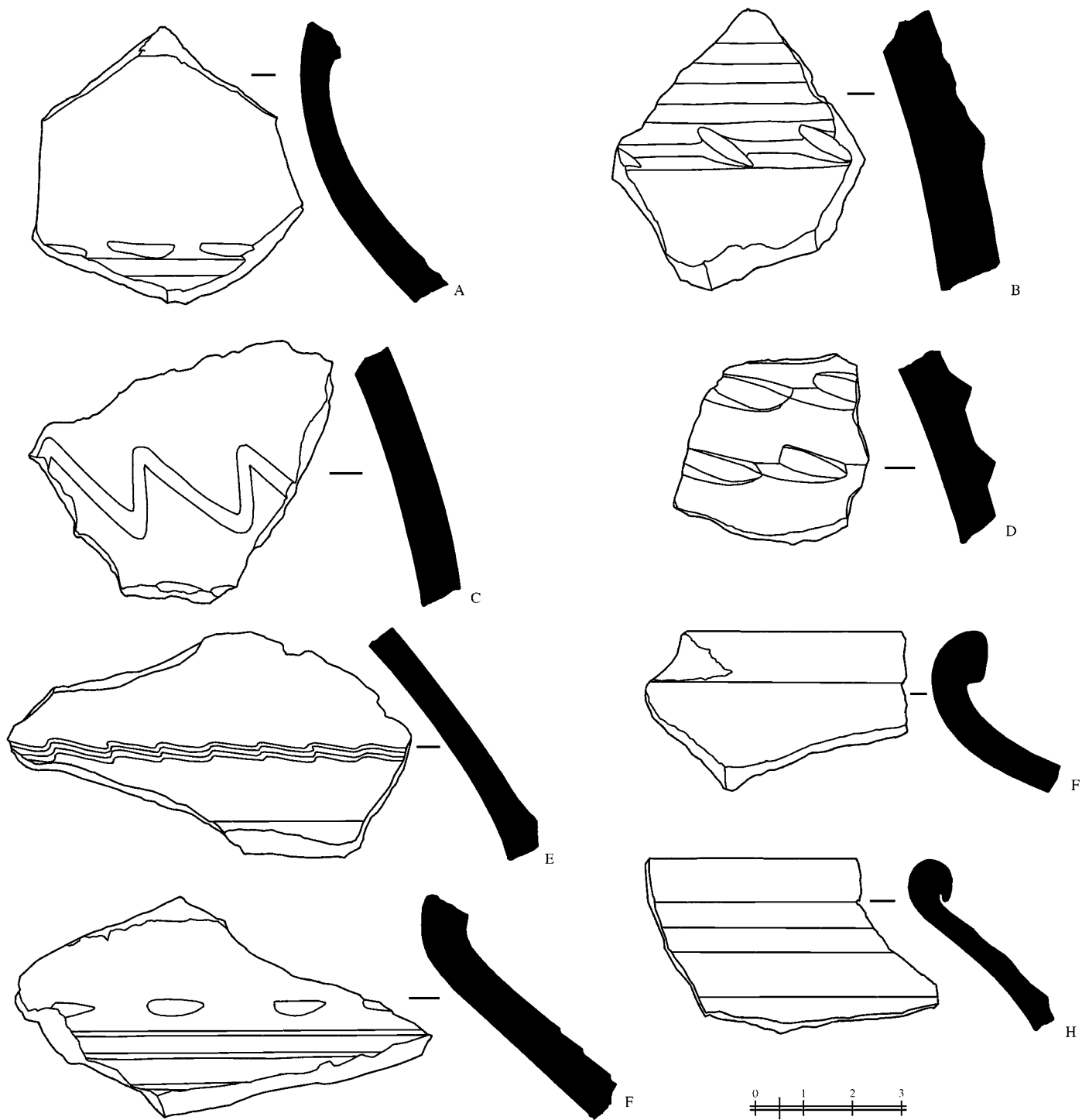


Figure 53. Surface Materials from Gegharot Fortress: Group A Ceramics

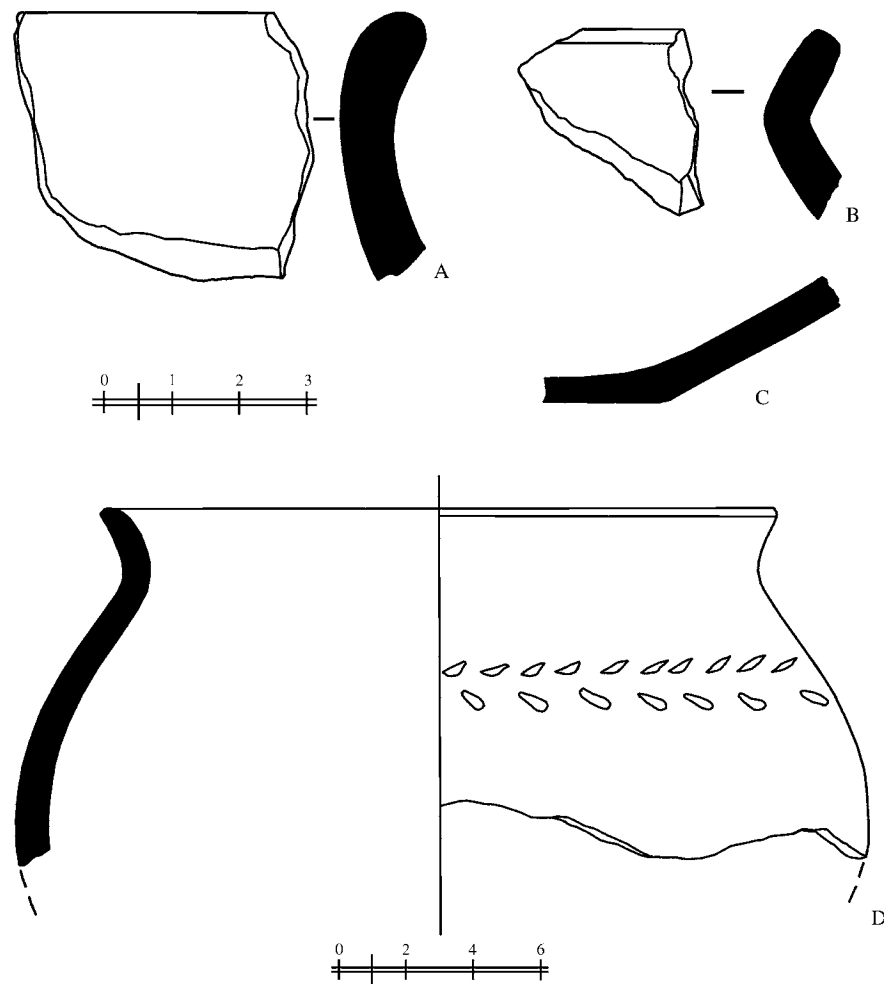


Figure 54. Surface Materials from Gegharot Fortress: (a–b, d) Group H and (c) Group J Ceramics

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>
<i>Locus</i>	Surface 2	Surface 2	Surface 2	Surface 2
<i>Sherd No.</i>	30	31	32	29
<i>Period</i>	H*	H	J**	H
<i>Fragment</i>	Rim	Rim	Base	Rim and Shoulder
<i>Form</i>	—	—	—	Closed Jar
<i>Rim Variant</i>	Rounded Everted	Rounded Flared	Flat	Rounded Everted
<i>Exterior Color</i>	Orange	Gray	Brown	Buff
<i>Interior Color</i>	Orange	Brown	Orange	Orange
<i>Fabric Color</i>	Orange	Brown	Gray	Brown
<i>Inclusions</i>	Medium	Medium	Medium–Fine	Medium
<i>Slip</i>	Orange	Gray	Brown	Buff
<i>Surface Treatment</i>	Smoothed	Polished	Burnished	Polished
<i>Rim Diameter / Percent</i>	26.0 cm / 5%	—	—	20.0 cm / 19%

* Group H = Iron I–Iron II; see table 1.

** Group J = Iron IIb–Iron IIIa; see table 1.

GEKHADZOR

FORTRESS

PLACE NUMBER	Ar/Gz	ILLUSTRATION	Fig. 47; Pls. 15, 46, 69c
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,182
UTM EASTING	429475	LATITUDE	40° 37.684'
UTM NORTHING	4497804	LONGITUDE	44° 09.966'
PERIODIZATION	Late Bronze, Iron II, Iron III/IV, Medieval		

ASSOCIATION

Set atop a small ridge on the western outskirts of Gekhadzor village, Gekhadzor Fortress (pl. 69c) is 2.17 km northwest of Sahakaberd Fortress (bearing 308°) and 1.65 km northeast of Hnaberd Fortress (bearing 47°). The place is conspicuously marked by a large television relay antenna and small associated building (map quadrant B3n).

TOPOGRAPHY

Located on the terminal end of a prow-shaped spur of Mount Aragats, Gekhadzor is rather notably thrust forward toward the plain from the more protected flanks. Unfortunately, the fortress has been severely damaged by modern construction (pl. 46). The only visible fortification walls remaining defend the eastern slope of the hill, making it impossible to estimate the size of the fortress itself. However, the outcrop is 210 m north–south × 78 m east–west, suggesting that the fortress that once occupied the hill was quite small.

GENERAL DESCRIPTION

Only two segments of architecture are currently visible from the surface. The surviving fortification wall on the crest of the eastern slope extends for approximately 22 m although it is not visible for the entire length of this span. It appears to be well constructed with regular blocks of medium basalt stones. A second segment of architecture is visible on the eastern side of the citadel to the south of the television antenna. Here a well-carpentered wall of regular blocks 1.75 m wide extends roughly north–south for 9 m before turning a 90° angle to the west. The wall appears to be made of two lines of well-faced stones surrounding a rubble core.

ASSOCIATED FEATURES AND MATERIALS

Light to moderate densities of surface materials were visible within the fenced area of the modern antenna, most likely due to the disturbance caused by construction (fig. 47). Densities diminish rapidly beyond this area, suggesting potentially better preserved levels on the southern end of the complex. Surface collections made in 2000 yielded a total of only eight sherds from the north end of the fortress, all broadly assignable to the Iron III period (Group R). A subsequent re-visit in 2004 recovered an additional sixty sherds, again all from the area around the antenna. Of these, twenty-three were unassignable; two were Late Bronze Age (Group D); seventeen were Iron IIb or IIIa (Group J); eight were Iron IIIb or IV (Group S); seventeen were assigned to the Iron II period; and a single roof tile appeared to date to the medieval period. The visible architecture and recovered ceramics strongly suggest that the primary occupation of the fortress was during the Iron III period, probably contemporary with the mid-first millennium B.C. occupation at Tsaghkahovit. Note should also be made of the small corpus of materials dating to the Iron II period. As at Hnaberd Fortress, the Iron II period collection is small and inconclusive, but it does warrant further examination given the general dearth of settlement in the Tsaghkahovit Plain during the Urartian era.

HNABERD

FORTRESS

PLACE NUMBER	Ar/Hn	ILLUSTRATION	Figs. 55–58; Pls. 14–15, 28,
UTM QUADRANT	38T		47, 67c, 70b
UTM EASTING	428368	ELEVATION (M A.S.L.)	2,344
UTM NORTHING	4496442	LATITUDE	40° 36.942′
PERIODIZATION	Late Bronze/Iron I, Iron III	LONGITUDE	44° 09.190′

ASSOCIATION

Hnaberd Fortress (pl. 67c) is located 1.4 km southeast (bearing 150°) of Hnaberd village, overlooking a large modern reservoir to the east. The fortress is 1.65 km southwest of Gekhadzor Fortress (bearing 227°) and is the most westerly fortress in the Tsaghkahovit Plain (map quadrant B3i).

TOPOGRAPHY

The fortress of Hnaberd sits atop a high, prow-shaped outcrop that rises 90 m above the surrounding terminal slope of the mountain (pls. 28, 47). The terrain surrounding the fortification walls is extremely steep on all sides except the south. A single terrace has been carved from the hill on both the east and west flanks. The site is approximately 33.2 ha in extent while the citadel enclosed by the fortification wall covers 1.56 ha.

GENERAL DESCRIPTION

The outline of the fortification wall is visible for almost the entire circuit around the citadel with significant exposures of the exterior facade on the southern end. A gateway flanked by towers or buttresses on the east side of the fortress is still the easiest way into the citadel. The walls of the fortifications are of medium to large stone masonry with shaped facing stones surrounding a rubble core. The most distinctive feature of the fortifications at Hnaberd is the construction of the southern wall, where the gentle topography provides little defense.

While much of the fortification wall at Hnaberd appears to be relatively straightforward in its construction, the southern wall shows considerable evidence of rebuilding and redesign over the course of at least three building phases (fig. 45). In the first, the central line of wall was constructed, with a series of small sawtoothed corners. In a subsequent building episode, the interior wall face was added to, altering the small sawtooth into a large corner several meters to the east. In yet another building episode, variably sized and spaced rectilinear buttresses were built against the exterior facade. It seems clear from our inspection of the joins that these buttresses were not integrated elements of the original construction. Moreover, the buttresses were constructed using a distinctive masonry which employed long flat stones rather than the irregularly shaped blocks used in building the courtine.

Immediately outside the southern fortification wall we found evidence of a small settlement, including visible rectilinear room blocks (Hnaberd lower town; pl. 70b). Only the tops of the walls within the lower town are visible and so we were not able to describe the masonry. However, the rooms make an interesting contrast to those from the larger lower town at Tsaghkahovit. In general, the rooms here are considerably smaller and nowhere do we see evidence for the sort of rectilinear, well-carpentered buildings that make the west settlement at Tsaghkahovit so conspicuous. However, small pathways between rooms suggest there may have been regular pathways within the settlement.

ASSOCIATED FEATURES AND MATERIALS

Surface densities at Hnaberd were quite high on our original visit in 1998, but considerably reduced in subsequent re-visits in 2000 and 2006 (figs. 55–58). Examination of the entire corpus of surface materials from Hnaberd ($n = 602$) suggests two primary eras of occupation, the Late Bronze/Iron I (Group A) and the mid-first millennium B.C. (Group J). Several sherds that resembled medieval ceramics were initially recorded, but as this assignment could not be confirmed in consultation with medieval specialists, these sherds were reassigned to the indeterminate group. Our initial impression of the Late Bronze/Iron I corpus of surface ceramics suggested that Hnaberd's late second-millennium B.C. occupation tended more toward the Iron I period (Avetisyan, Badalyan, and Smith 2000). However, further inspection suggests that this is not the case. The initial construction of Hnaberd

Fortress now appears to be closely synchronized with the Late Bronze occupations at Tsaghkahovit and Gegharot. Note should also be made of the small yet significant corpus of materials dating to the Iron II period. While the total collection is small and inconclusive, it does warrant further examination given the general dearth of settlement in the Tsaghkahovit Plain during the Urartian era.

Hnaberd surface materials were collected in 2000 in eight distinct loci. The Group A ceramics were distributed relatively evenly across all loci but were, not surprisingly, particularly dense within the confines of the citadel wall. Group J ceramics were most strongly represented within the citadel walls and on the eastern terrace.

The history of research at Hnaberd is similar to that of Tsaghkahovit Fortress as the site has been recorded by the same cast — Marr, Toramanyan, Adzhan, Gyuzalian, Piotrovskii, and Kafadaryan. A limited set of artifactual materials was collected from Hnaberd in 1927 by M. Gukasyan (Khachatryan 1974: 111). However, these materials are of limited utility in dating the site as the collection consists primarily of obsidian fragments, basalt grinding stones, and nondescript ceramic fragments. See Avetisyan, Badalyan, and Smith 2000; Badalyan, Smith, and Avetisyan 2003; and Smith et al. 2004.

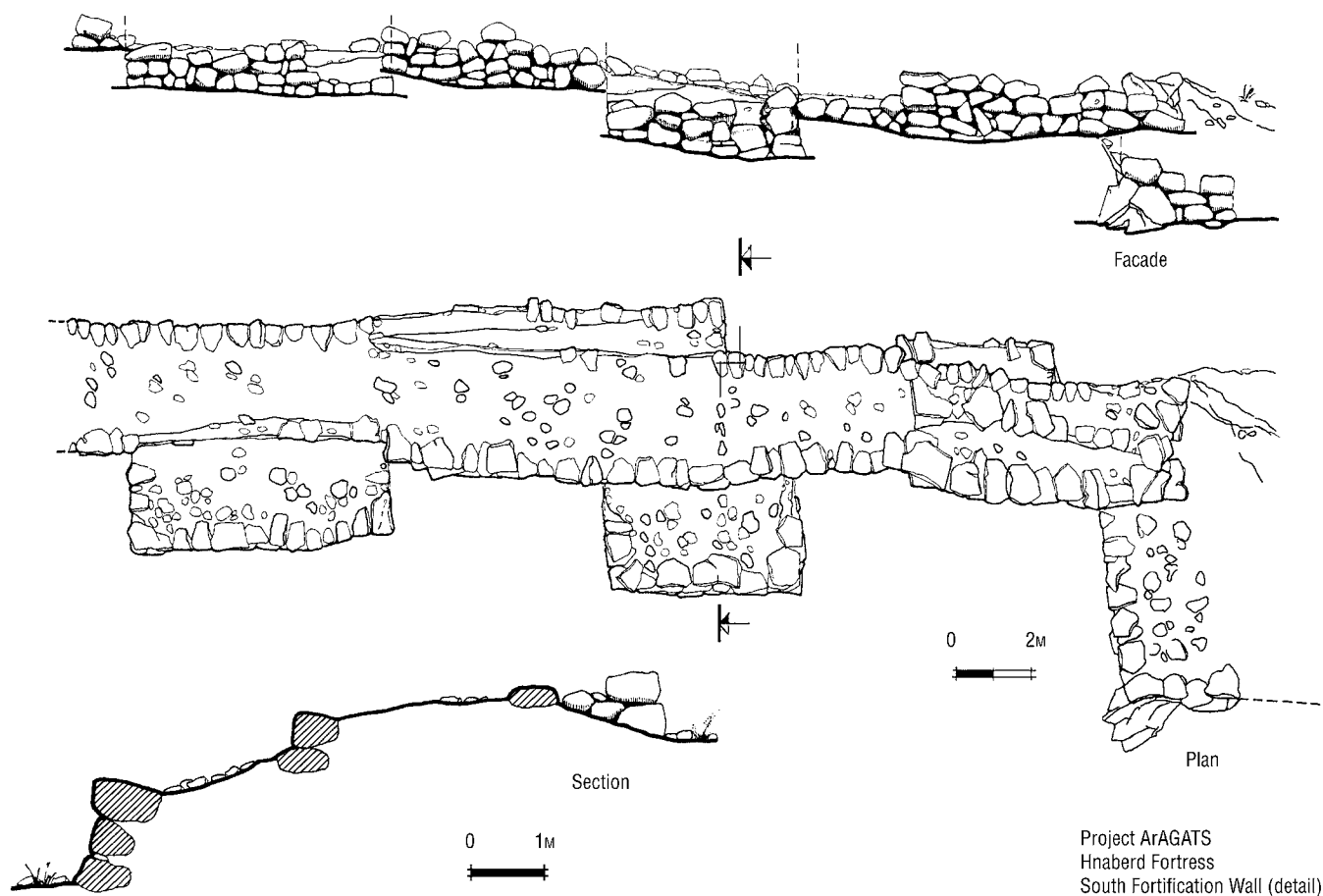


Figure 55. Southern Fortification Wall Segment at Hnaberd Fortress

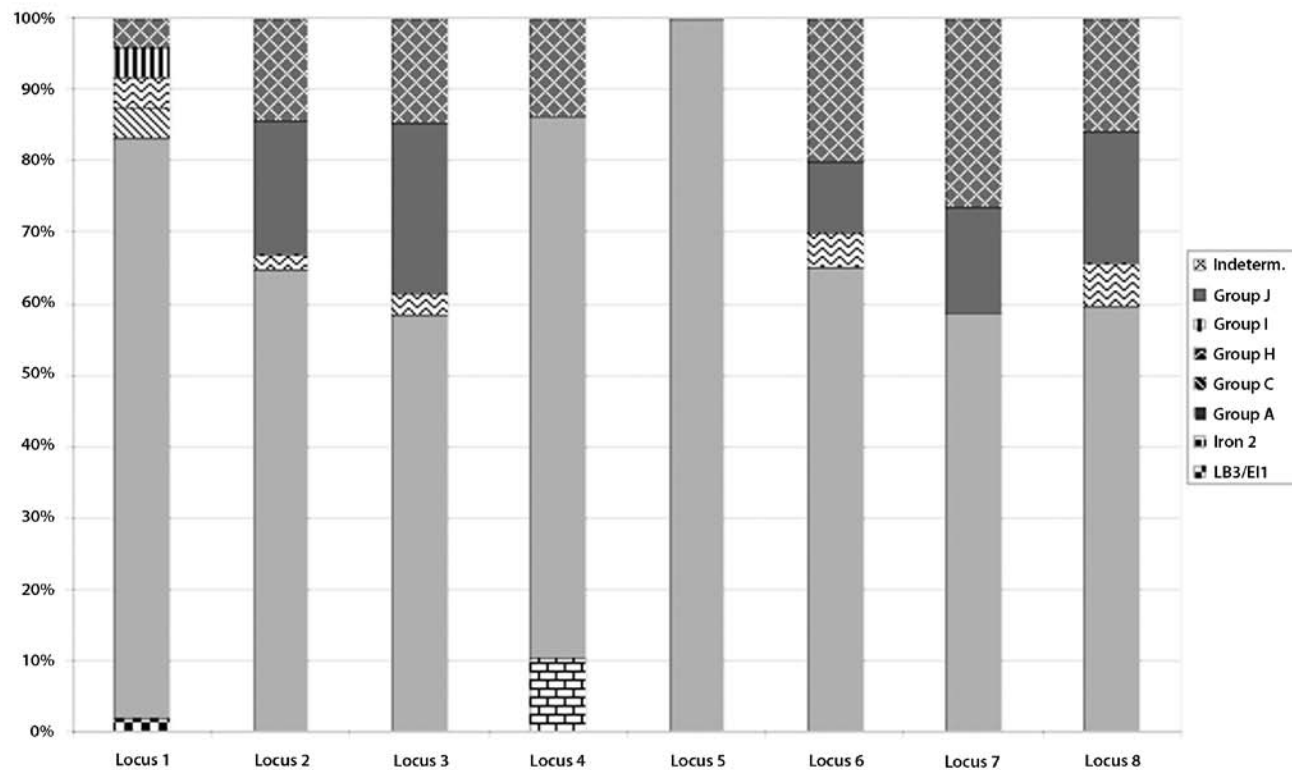


Figure 56. Hnaberd Fortress and Lower Town Surface Ceramic Counts

Figure 57. Surface Materials from Hnaberd Fortress: Group A, Group H, and Iron II Ceramics

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>	<i>i</i>	<i>j</i>
<i>Locus</i>	Surface 4	Surface 8	Surface 2	Surface 1	Surface 6	Surface 3	—	Surface 3	Surface 8	Surface 1
<i>Sherd No.</i>	1	2	3	1	1	6	—	7	1	2
<i>Period</i>	A*	A	A	H**	H	H	—	H	H	Iron II
<i>Fragment</i>	Rim–Shoulder	Rim	Rim	Handle	Rim	Shoulder	—	Rim	Rim	Rim
<i>Form</i>	Bowl	Closed Jar	Closed Jar	—	Plate	Closed Jar	—	Open Jar	Closed Jar	Large Bowl/Vat
<i>Rim Variant</i>	Rounded Everted	Rounded Everted	Rounded Everted	—	Flat	—	—	Rolled	Rounded Everted	Flat
<i>Exterior Color</i>	Brown	Brown	Buff	Orange	Orange	Orange	—	Buff	Buff	Orange
<i>Interior Color</i>	Gray	Orange	Buff	Orange	Orange	Brown	—	Buff	Buff	Orange
<i>Fabric Color</i>	Orange	Gray	Brown	Gray	Orange	Orange	—	Orange	Gray	Gray
<i>Inclusions</i>	Medium–Coarse	Medium	Medium	Medium	Coarse	Medium	—	Medium–Coarse	Coarse	Medium–Fine
<i>Slip</i>	Yes	Yes	Yes	Yes	Yes	Yes	—	Yes	No	Yes
<i>Surface Treatment</i>	Polished	Smoothed	Polished	Smoothed	Smoothed	Smoothed	—	Polished	Smoothed	Polished
<i>Rim Diameter / Percent</i>	14.0 cm / 7%	18.0 cm / 5%	—	—	N/A	—	—	13.0 cm / 4%	22.0 cm / 3%	47.0 cm / 4%

* Group A = Late Bronze I–Iron I; see table 1.

** Group H = Iron I–Iron II; see table 1.

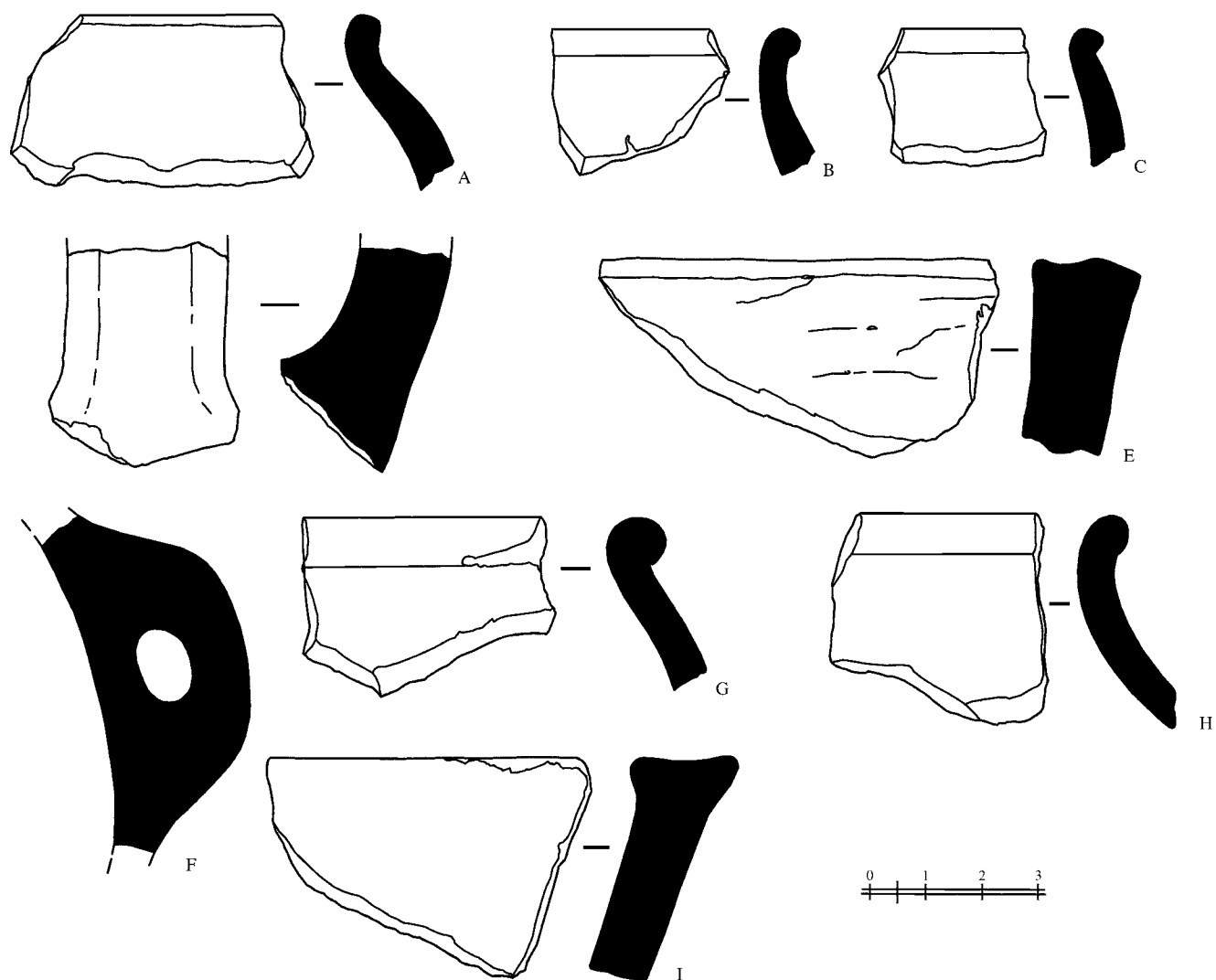


Figure 57. Surface Materials from Hnaberd Fortress:
 (a–c) Group A, (d–h) Group H, and (i) Iron II Ceramics

Figure 58. Surface Materials from Hnaberd Fortress: Group J Ceramics

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>	<i>i</i>
<i>Locus</i>	Surface 2	Surface 3	Surface 2	Surface 2	Surface 3	Surface 8	Surface 3	Surface 2	Surface 3
<i>Sherd No.</i>	13	18	14	15	19	4	21	12	22
<i>Period</i>	J*	J	J	J	J	J	J	J	J
<i>Fragment</i>	Rim	Rim	Rim	Handle	Rim	Handle	Shoulder	Rim	Handle
<i>Form</i>	Closed Jar	Bowl	Bowl	—	Closed Jar	—	Jar	Bowl	Jar
<i>Rim Variant</i>	Flat Everted	Rounded	Straight Flat	—	Band	—	—	Straight Rounded	—
<i>Exterior Color</i>	Gray	Buff	Black	Buff	Black	Brown	Buff	Red	Gray
<i>Interior Color</i>	Gray	Buff	Black	—	Brown	Gray	Brown	Brown	—
<i>Fabric Color</i>	Gray	Brown	Gray	Buff	Brown	Gray	Gray	Brown	Gray
<i>Inclusions</i>	Medium	Medium	Medium	Medium	Medium	Medium	Medium–Coarse	Medium	Coarse
<i>Slip</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Surface Treatment</i>	Polished	Polished	Polished	Polished	Polished	Polished	Smoothed	Polished	Smoothed
<i>Rim Diameter / Percent</i>	16.0 cm / 16%	18.0 cm / 3%	N/A	—	14.0 cm / 6%	—	—	16.0 cm / 16%	—

* Group J = Iron IIb–Iron IIIa; see table 1.

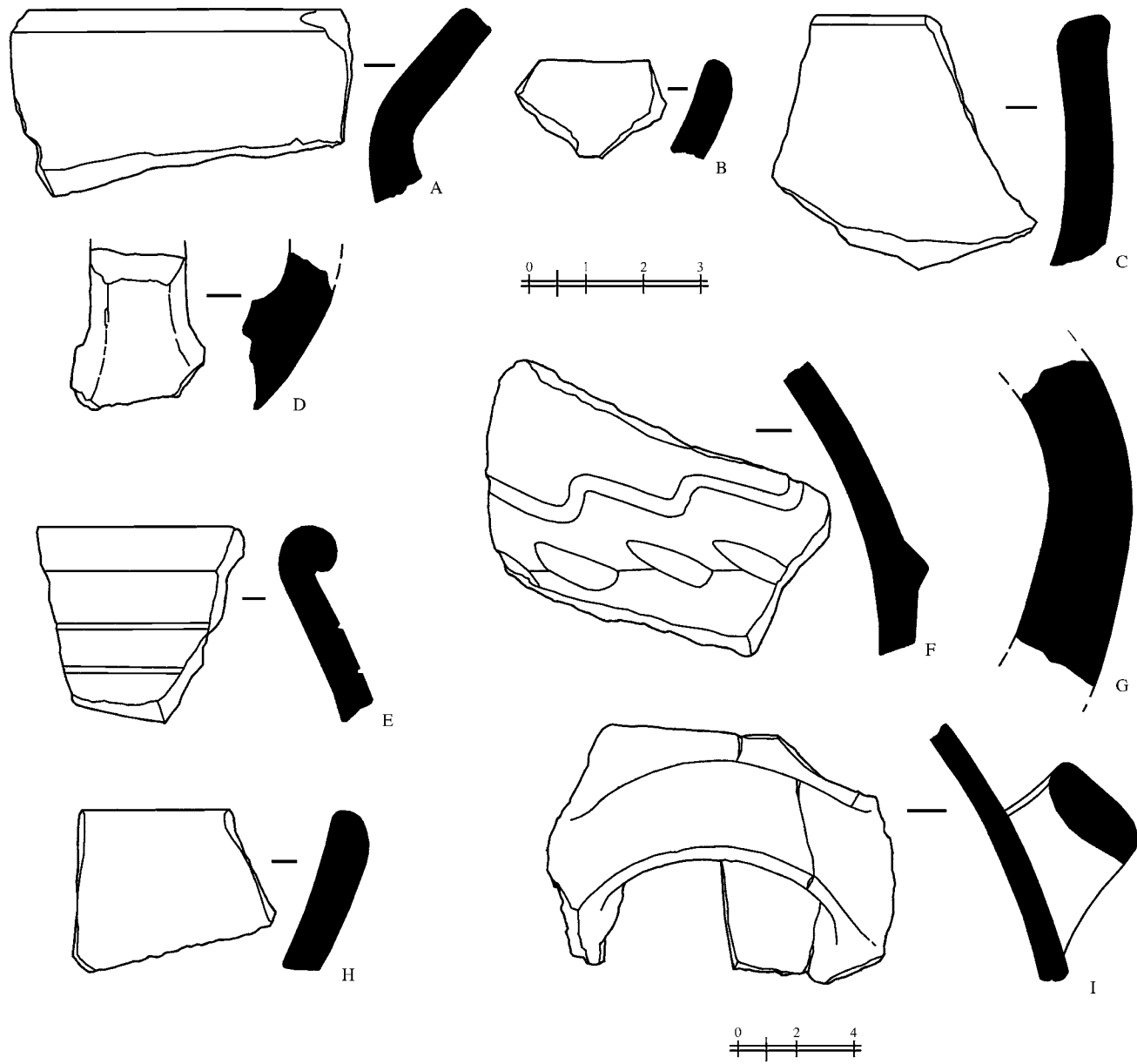


Figure 58. Surface Materials from Hnaberd Fortress:
Group J Ceramics

LERNAPAR

FORTRESS

PLACE NUMBER	Ar/Lp	ILLUSTRATION	Pls. 23, 29, 36, 69d
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,166
UTM EASTING	427753	LATITUDE	40° 44.61'
UTM NORTHING	4510638	LONGITUDE	44° 08.66'
PERIODIZATION	Late Bronze/Iron I, Iron III		

ASSOCIATION

Lernapar (pl. 69d) is, in many respects, the most isolated of the fortresses recorded in the Tsaghkahovit Plain. The promontory on which the fortress was built overlooks the headwaters of the Kasakh River and a small, eponymous village to the east. Two small creeks at the base of both the north and south slopes join near the eastern tip of this east–west-oriented promontory to forge the Kasakh. The nearest fortress is Berdidosh, 3.34 km to the east (map quadrant F2d).

TOPOGRAPHY

Lernapar Fortress is built atop a triangular, prow-shaped promontory extending from west to east. The north slope drops dramatically down a steep grade to the creek at the base. The southern slope is gentler, though still significant, descending more gradually. The western flank of the site is the gentlest, rising only slightly from the surrounding elevated terrain that marks an ascent into the northwestern passage into the Shirak Plain.

GENERAL DESCRIPTION

Lernapar Fortress is oval in plan (pls. 29, 36) with an 80 m elongated axis oriented to a bearing 30° south of east. The short axis of the site is irregular but averages approximately 40 m. Except on the western side, the fortification walls, like those at other sites in the plain, follow closely the crest of the promontory's natural topography. The western wall cuts across more gentle terrain in a well-carpentered straight line bearing 212°. Evidence remains of a small curvilinear tower on the northeastern corner of the fortification walls.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

The lack of surface materials at the site is troubling and precludes a clear assessment of the site's periodization. One possibility is that the place is not a fortress but a giant corral. This would certainly explain the lack of surface materials, but it would not account for the remarkably well-built walls or the presence of several large cromlech cemeteries in an area generally devoid of other identifiable archaeological places. Given the very low surface densities at other sites in the region, such as Mirak, it is not entirely unprecedented for a fortress to have such low densities of surface materials. The question then is to what period can the fortress be provisionally assigned based on the visible architecture and associations? The conspicuous cluster of cromlech cemeteries along the southern flank of the fortress suggests the strong likelihood of a Late Bronze/Iron I presence at the site. However, close architectural parallels for the plan and masonry of the fortification walls to those at Hnaberd, on the south side of the plain, suggest the possibility of later rebuilding. The curvilinear tower on the northeast corner of the fortress certainly suggests the possibility of rebuilding at the site during the mid-first millennium B.C.

MIRAK

FORTRESS

PLACE NUMBER	Ar/Mi	ILLUSTRATION	Fig. 47; Pls. 12, 43, 69b
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,072
UTM EASTING	442835	LATITUDE	40° 38.631'
UTM NORTHING	4499442	LONGITUDE	44° 19.435'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Mirak Fortress (pl. 69b) was built at the southeastern gate of the Tsaghkahovit Plain, where the Kasakh headwaters race into the Aparan Valley. It is 7.83 km east (bearing 84°) of Tsaghkahovit Fortress and 10.79 km southeast (bearing 130°) of Gegharot Fortress. The site lies north of the modern village of Mirak and southeast of the modern reservoir (map quadrant C6g).

TOPOGRAPHY

The site sits atop an elevated promontory above the east bank of the Kasakh River (pl. 43).

GENERAL DESCRIPTION

The citadel wall at Mirak encloses an elliptically shaped area approximately 140 × 120 m. On the east slope of the site, a series of terraces appear to be reinforced by stone masonry walls. The citadel wall itself also appears to have served as a terracing wall and remains visible to a height of three courses on the southeast corner. The promontory is highly denuded on its western reaches, making it difficult to reconstruct the path of the masonry. But a series of basins cut into the exposed bedrock surface indicate occupation in this part of the site. The masonry is cyclopean, employing large stones (over 50 cm in diameter) without rubble fill.

ASSOCIATED FEATURES AND MATERIALS

Surface material densities on the site are quite light ($n = 9$) and limited to the area within the citadel walls (fig. 47). No materials were recovered from the terraces. Two visits to Mirak (in 1998 and 2004) yielded a total of six sherds attributable to Group A (Late Bronze/Iron I) and three more specifically diagnostic of the Late Bronze III/Iron Ia phase. See Avetisyan, Badalyan, and Smith 2000.

POLOZ-SAR

FORTRESS

PLACE NUMBER	Ar/PS	ILLUSTRATION	Fig. 47; Pls. 24, 30, 40, 68d
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,439
UTM EASTING	436888	LATITUDE	40° 43.215'
UTM NORTHING	4507971	LONGITUDE	44° 15.164'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Like Ashot-Yerkat and Tsilkar, Poloz-Sar (pl. 68d) is a small fortified outpost located in the Pambak hills. It lies 2.8 km northeast (bearing 55°) of Gegharot Fortress. The site overlooks a tributary of the Kasakh River and a pass through the mountains that until the second half of the twentieth century was the primary route north to the Lori Valley (map quadrant E5e).

TOPOGRAPHY

This small fortress was built atop a high conical peak at an elevation of 2,400 m a.s.l. The citadel is largely denuded bedrock, but a small terrace on the northwestern side of the hill and a broad flat area on the east side of the peak appear to have retained soil cover and perhaps intact deposits.

GENERAL DESCRIPTION

Poloz-Sar is circumscribed by two concentric rings of stone masonry walls that remain largely visible on the surface (pls. 30, 40). Both are irregular cyclopean curvilinear constructions made of medium to large, shaped basalt blocks. The walls range between 1.95 and 2.15 m in width. The gateway into the site is not visible from the surface so it is not possible at present to define the route up to and through the site.

ASSOCIATED FEATURES AND MATERIALS

Very few surface materials ($n = 9$) were found at Poloz-Sar (fig. 47).

A single small (2×2 m) test sounding on the eastern terrace of the site did not yield evidence of well-preserved occupation levels. Furthermore, material densities were quite low with only twenty-five ceramic sherds encountered in the 1.5 m deep trench. However, the diagnostic materials that were recovered were almost exclusively Late Bronze Age in date (excepting a single medieval sherd), indicating close contemporaneity with Gegharot Fortress.

SAHAKABERD

FORTRESS

PLACE NUMBER	Ar/Sk	ILLUSTRATION	Figs. 58–60; Pls. 15, 31, 45, 67d
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,343
UTM EASTING	431195	LATITUDE	40° 36.975'
UTM NORTHING	4496476	LONGITUDE	44° 11.195'
PERIODIZATION	Late Bronze/Iron I(?), Iron III, Iron IV, Medieval		

ASSOCIATION

Sahakaberd Fortress (pl. 67d) is located 4.33 km southwest (bearing 139°) of Tsaghkahovit Fortress, within the territory of a modern military proving ground (map quadrant B3k).

TOPOGRAPHY

The fortress was built atop a moderate rise where the Auzkend Stream leaves the rugged slopes of Mount Aragats to begin a gentle final descent to the Tsaghkahovit Plain. While the approaches to the site from the plain are quite steep, the terrain beyond the southern walls is quite subdued until a series of ridges rise up into Mount Aragats. The site now lies within the territory of a military proving ground and bears enormous scars of use for gunnery practice and other exercises. Foxholes have been dug against the fortress wall and stones have been placed haphazardly atop the existing structures. The site extends over 8.20 ha, emerging to the north with an extensive medieval-era settlement (Sahakaberd Settlement 1). The visible fortification walls enclose a small citadel of 0.20 ha.

GENERAL DESCRIPTION

Although considerably damaged by modern military exercises, a significant portion of the original construction is still visible (pls. 31, 45). The walls are built of small to medium facing stones surrounding a rubble core with a gateway on the southeastern corner. The most remarkable feature of the fortification architecture is the series of large buttresses on the south wall. These buttresses project between 2.6 and 4.6 m from the courtine and are spaced at regular intervals of approximately 8.5 m. The appearance of buttresses on only the southern side of Sahakaberd Fortress suggests that these features were not extensions of the engineering requirements of the wall itself but rather were features of the defensive system, focused where the topography afforded the least protection. Inspection of the joins between the buttresses and courtine suggest that the former were added subsequent to the initial construction of the circumferential fortification wall. A single long wall was also recorded on the slope outside the southern wall. It is unclear what relationship this wall has, if any, to the fortress.

ASSOCIATED FEATURES AND MATERIALS

Our preliminary examinations of the surface materials from Sahakaberd ($n = 257$) strongly suggested occupation of the site during the Iron III, Iron IV, and medieval eras (figs. 59–60). Some indications were also initially found of a Late Bronze/Iron I occupation. Further examination of the materials have cast some doubt on the evidence for a second-millennium occupation at the site and confirmed the strength of the Iron III, Iron IV, and medieval activity in the area. Indeed, the fortifications of Sahakaberd also point toward significant construction activity in the Iron IV period. The layout of the site is highly reminiscent of the architecture at Veriberd, a site located on the west slope of Mount Aragats. The fortification wall at Veriberd employed wide buttresses similar to those at Sahakaberd (Smith 1996: 127–29). If confirmed, Sahakaberd would be the only site in the Tsaghkahovit Plain with a significant Iron IV occupation. See Avetisyan, Badalyan, and Smith 2000.

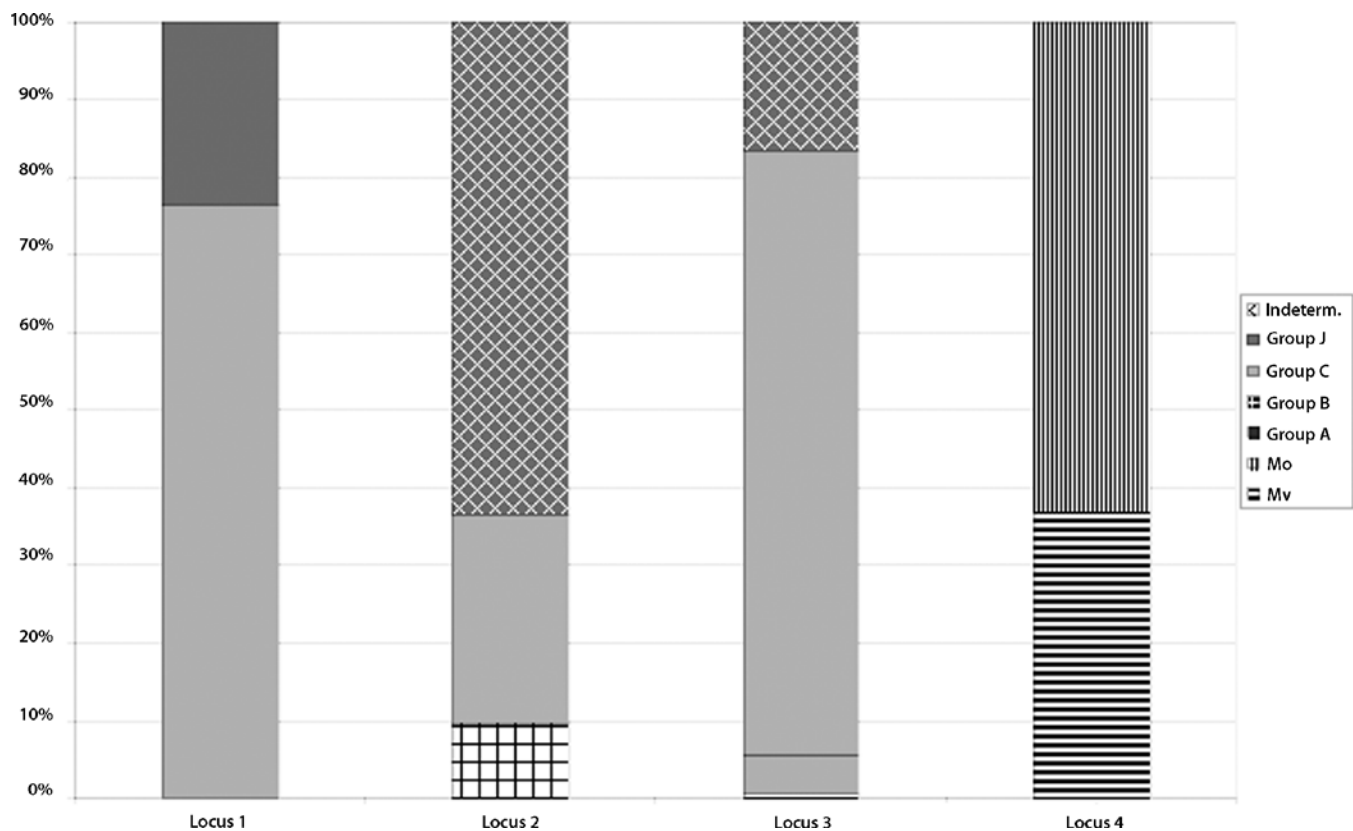


Figure 59. Sahakaberd Fortress Surface Ceramic Counts

Figure 60. Surface Materials from Sahakaberd Fortress: Groups B, C, and J and Medieval Ceramics

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>
<i>Locus</i>	Surface 1	Surface 3	Surface 3	Surface 2	Surface 1	Surface 3	Surface 3	Surface 3
<i>Sherd No.</i>	1	2	1	2	2	6	4	3
<i>Period</i>	J*	C**	Medieval	B***	J	C	C	C
<i>Fragment</i>	Rim	Rim	Shoulder	Rim	Rim	Shoulder	Rim	Rim
<i>Form</i>	Pot	Cup	—	Closed Jar	Plate	—	Jar	Lamp?
<i>Rim Variant</i>	Everted	Ledge	—	Rounded	Flat	—	Rounded Everted	Three part
<i>Exterior Color</i>	Brown	Buff	Orange	Orange	Orange	Orange	Brown	Buff
<i>Interior Color</i>	Tan	Buff	Brown	Orange	Orange	Orange	Olive	Buff
<i>Fabric Color</i>	Brown	Brown	Dark Brown	Gray	Red	Orange	Gray	Brown
<i>Inclusions</i>	Medium—Coarse	Medium	Fine	Coarse	Coarse	Medium—Fine	Fine	Medium
<i>Slip</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Surface Treatment</i>	Smoothed	Polished	Polished	Smoothed	Smoothed	Polished	Smoothed	Polished
<i>Rim Diameter / Percent</i>	19.0 cm / 6%	N/A	—	20.0 cm / 8%	16.0 cm / 6%	—	13.0 cm / 15%	N/A

* Group J = Iron IIb–Iron IIIa; see table 1.

** Group C = Iron IIIa–Medieval; see table 1.

*** Group B = Late Bronze III–Iron I; see table 1.

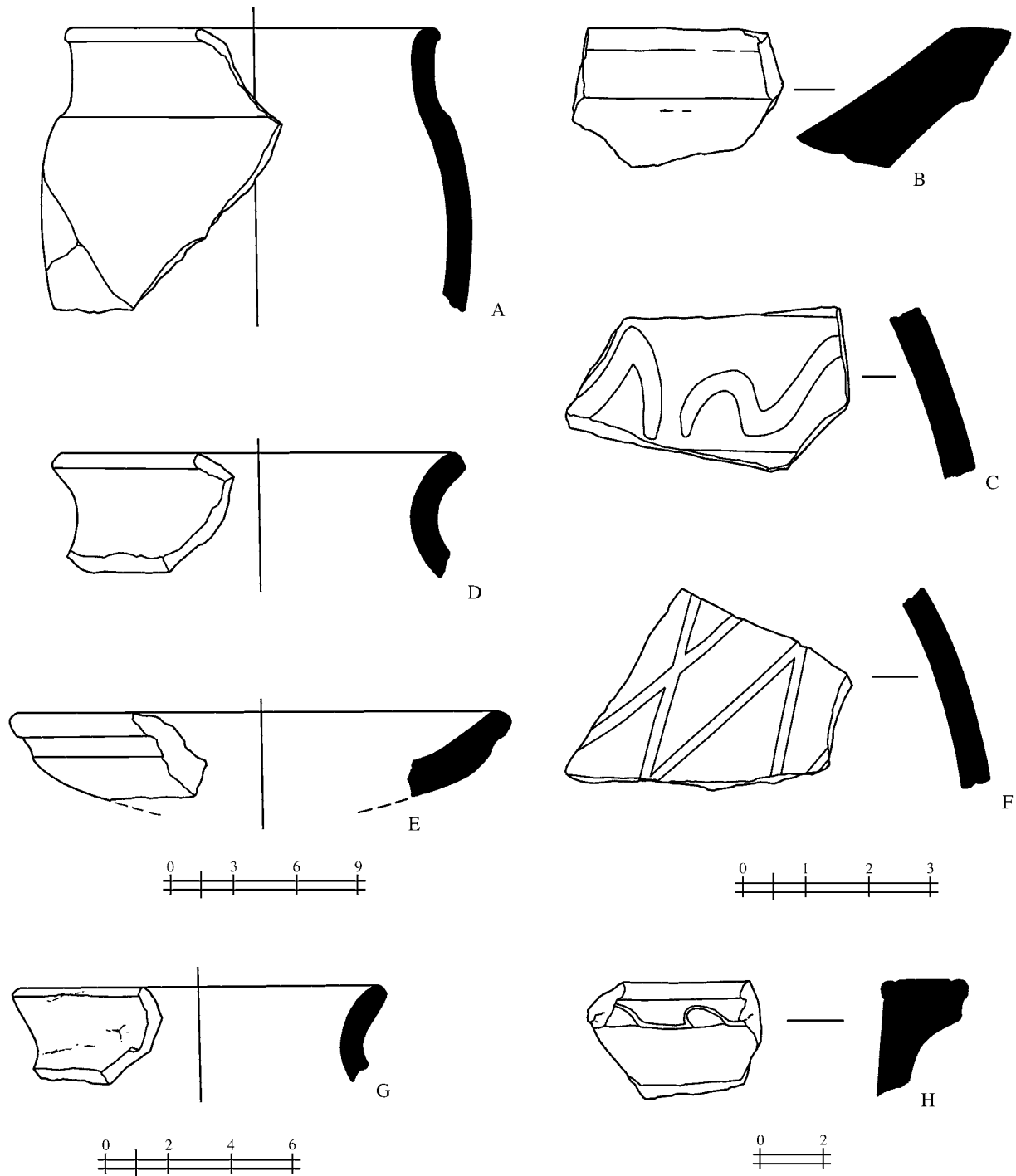


Figure 60. Surface Materials from Sahakaberd Fortress:
 (a, e) Group J, (b, f, g) Group C, (c) Medieval, and (d, h) Group B Ceramics

TSAGHKAHOVIT

FORTRESS

PLACE NUMBER	Ar/Ts	ILLUSTRATION	Figs. 61–68; Pls. 18, 32,
UTM QUADRANT	38T		44, 67a, 70a
UTM EASTING	434965	ELEVATION (M A.S.L.)	2,183
UTM NORTHING	4498728	LATITUDE	40° 38.256′
PERIODIZATION	Early Bronze, Late Bronze, Iron III, Medieval	LONGITUDE	44° 13.837′

ASSOCIATION

The fortress of Tsaghkahovit (pl. 67a) lies on the eastern flank of the eponymous village, 7.03 km northeast (bearing 72°) and 7.72 km south (bearing 177°) of Gegharot Fortress (map quadrant C4c).

TOPOGRAPHY

Tsaghkahovit Fortress is located on the leading edge of a spur of Mount Aragats, directly overlooking the southern edge of the plain. The site (pls. 32, 44) extends across 39.6 ha, including the fortress outcrop, secondary ridge to the southeast, and two flanking basins. The fortress hill (7.59 ha), identified on some early twentieth-century maps as Kalachi Tepe, rises 80 m above the plain in a conical outcrop capped by a flat citadel (0.59 ha). The small Tsaghkahovit riverbed passes below the western and northern flank of the cone and flows continuously throughout the year. A petrographic analysis (by A. Karakhanyan and Georisk) of geologic samples taken from the summit of Kalachi Tepe indicates that the rocks at the site are represented by clinopyroxene-plagioclase basaltic andesite. The site overlooks the road from the Aparan Valley to the Shirak Plain which runs along the northern foot of Mount Aragats and overlooks at a greater distance the road from the Ararat Plain to the Lori-Pambak region that runs along the course of the upper Kasakh River.

GENERAL DESCRIPTION

Surrounding the citadel is a stone fortification wall in generally good condition. The fortification wall appears to have been constructed atop a stone foundation or revetment which itself rested on bedrock (fig. 68). The wall seems to have been constructed of variable medium and small facing stones flanking a rubble core. The facing stones were moderately worked to give a flat surface on both the interior and exterior faces. Several irregular buttresses punctuate the exterior wall face, one on the northwestern side and three on the eastern facade. The slopes of the fortress hill are sculpted on all sides by a series of terrace walls (fig. 67). These walls were not enclosures with two masonry faces, but rather were constructions with a single exterior face that served as braces for leveling portions of the hillside. Erosion has significantly impacted the terrace walls (terrace collapse is likely responsible for the fields of large stones strewn at the base of the hill); however, a number of well-preserved terrace wall segments are still visible, particularly on the northwestern and eastern slopes. Below the western, southern, and eastern slopes of the fortress hill are extensive architectural remains of room and building complexes (Tsaghkahovit lower town; pl. 70a). The tops of the stone walls are clearly visible from the surface, although the masonry is not. Based on the local topography, we divided the settlement architecture into three primary units (pl. 32): the west and east settlements at the base of the fortress hill and the southeast settlement located beyond the secondary ridge. Building in the west settlement is marked by the presence of several aggregated room complexes, the largest of which, located on the southern border of the site, encompasses at least twenty-two rooms. Smaller complexes of three–five rooms are also visible, as are a number of smaller freestanding constructions. The architecture in the east settlement is less intelligible from the surface, perhaps due to site formation processes, but does appear to be less aggregated, with larger, freestanding rooms. In general, the walls in both the west and east settlements appear to employ double facings surrounding a rubble core. The southeast settlement complex appears from the surface to be a single aggregated block of variably sized rooms. Most of the walls appear to be much less substantial than those of the west and east settlement complexes, with thin, double-faced walls yielding in places to what seem to be simply single rows of large stones.

ASSOCIATED FEATURES AND MATERIALS

Surface materials from Tsaghkahovit ($n = 1,137$) suggest the earliest occupation of the site was in the Early Bronze Age (figs. 61–68). Examination of the surface ceramics from the site indicates that 6.8 percent of the materials are classifiable as Early Bronze. Furthermore, Early Bronze materials comprise 28 percent of the ceramics recovered from collection loci on the lower west slope of the fortress hill. The dense concentration of Early Bronze materials at the base of the Tsaghkahovit outcrop is topographically quite characteristic of the known corpus of contemporary sites in neighboring regions, such as Karnut, Anushavan, and Ketii in the Shirak Plain. Preliminary examination of the ceramics indicated that 80 percent were attributable to the Late Bronze/Iron I (with 1.7% of the collection more specifically diagnostic of the Late Bronze II and III phases) and 5 percent typical of Iron III period wares. Reported by Marr in the late nineteenth century, the site of Tsaghkahovit was first described in 1914 by Toramanyan (1942: 14–17). In 1930, Adzhan, Gyuzalyan, Piotrovskii, and Baiburtyan worked briefly at the site, recording some of its surface features (Adzhan, Gyuzalian, and Piotrovskii 1932: 61–64). In 1963–64, Kafadaryan made the first topographic and architectural plan of the site (Kafadaryan 1996: 82; Smith and Kafadarian 1996: 33, 36). The only artifactual remains from the site to have been published are a Late Bronze Age bowl found on the surface in 1932 (Khachatrian 1974: 109) and a small collection of surface sherds reported by Smith and Kafadarian (1996: 32). See Avetisyan, Badalyan, and Smith 2000; Badalyan, Smith, and Avetisyan 2003; Smith et al. 2004; and Badalyan et al. forthcoming.

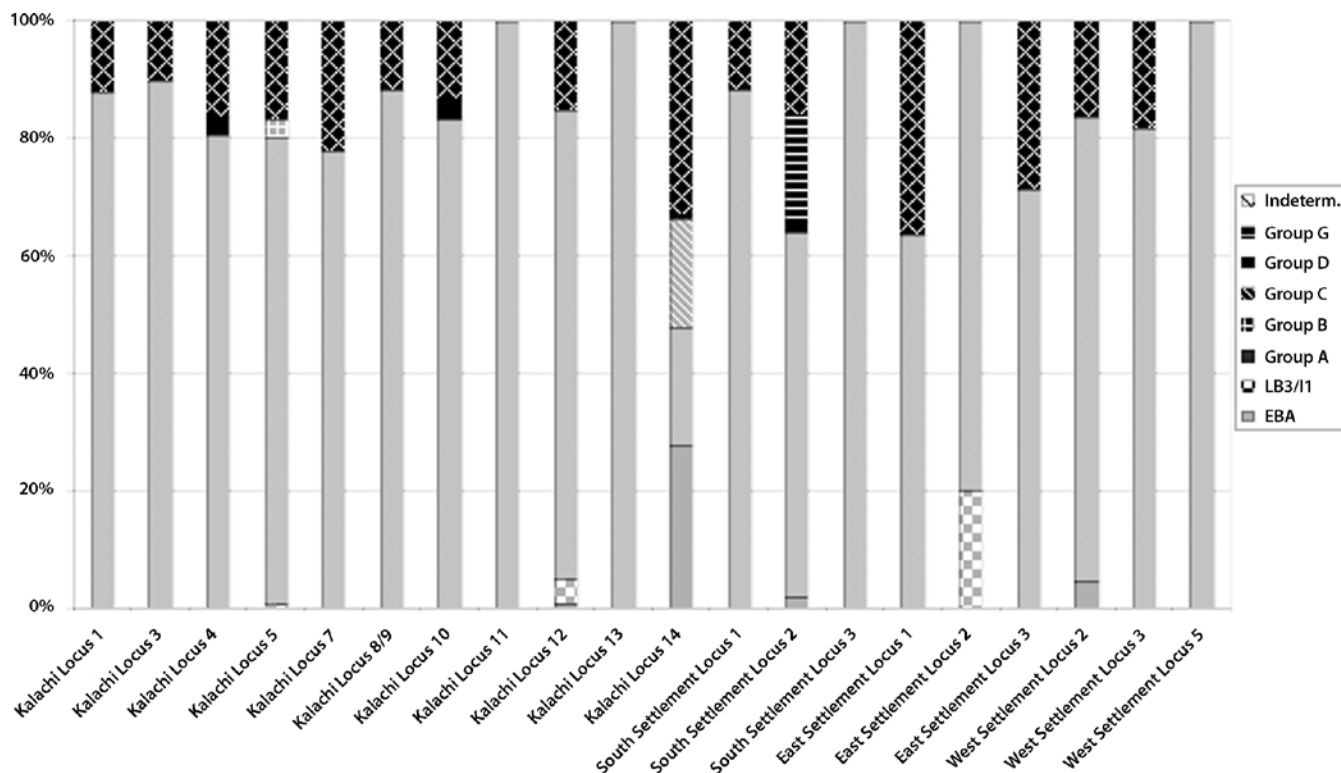


Figure 61. Tsaghkahovit Fortress and Lower Town Surface Ceramic Counts

Figure 62. Surface Materials from Tsaghkahovit Fortress: Late Bronze III/Iron Ia and Group D Ceramics

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>
<i>Locus</i>	Kalachi 2	East Settlement 1	Kalachi 2	East Settlement 1	South Settlement 2	Kalachi 12	Kalachi 14	Kalachi 12
<i>Sherd No.</i>	8	3	4	2	2	1	2	6
<i>Period</i>	Late Bronze III/Iron Ia	Late Bronze III/Iron Ia	Late Bronze III/Iron Ia	Late Bronze III/Iron Ia	D*	Late Bronze III/Iron Ia	D	Late Bronze III/Iron Ia
<i>Fragment</i>	Shoulder	Base	Shoulder	Rim	Rim	Shoulder	Shoulder	Handle
<i>Form</i>	Closed Jar	Open Jar	Jar	Jar	Closed Jar	Jar	Jar	Closed Jar
<i>Rim Variant</i>	—	—	—	Ledge	Ledge	—	—	—
<i>Exterior Color</i>	Gray	Gray	Gray	Gray	Brown	Gray	Gray	Gray
<i>Interior Color</i>	Gray	Gray	Gray	Gray	Brown	Gray	Gray	Brown
<i>Fabric Color</i>	Gray	Brown	Gray	Gray	Gray	Gray	Gray	Gray
<i>Inclusions</i>	Medium	Coarse	Fine	Fine	Coarse	Medium	Medium	Medium
<i>Slip</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Surface Treatment</i>	Smoothed	Polished	Polished	Smoothed	Smoothed	Smoothed	Smoothed	Polished
<i>Rim Diameter / Percent</i>	—	—	—	16.0 cm / 5%	12.0 cm / 10%	—	—	—

* Group D = Late Bronze I–III; see table 1.

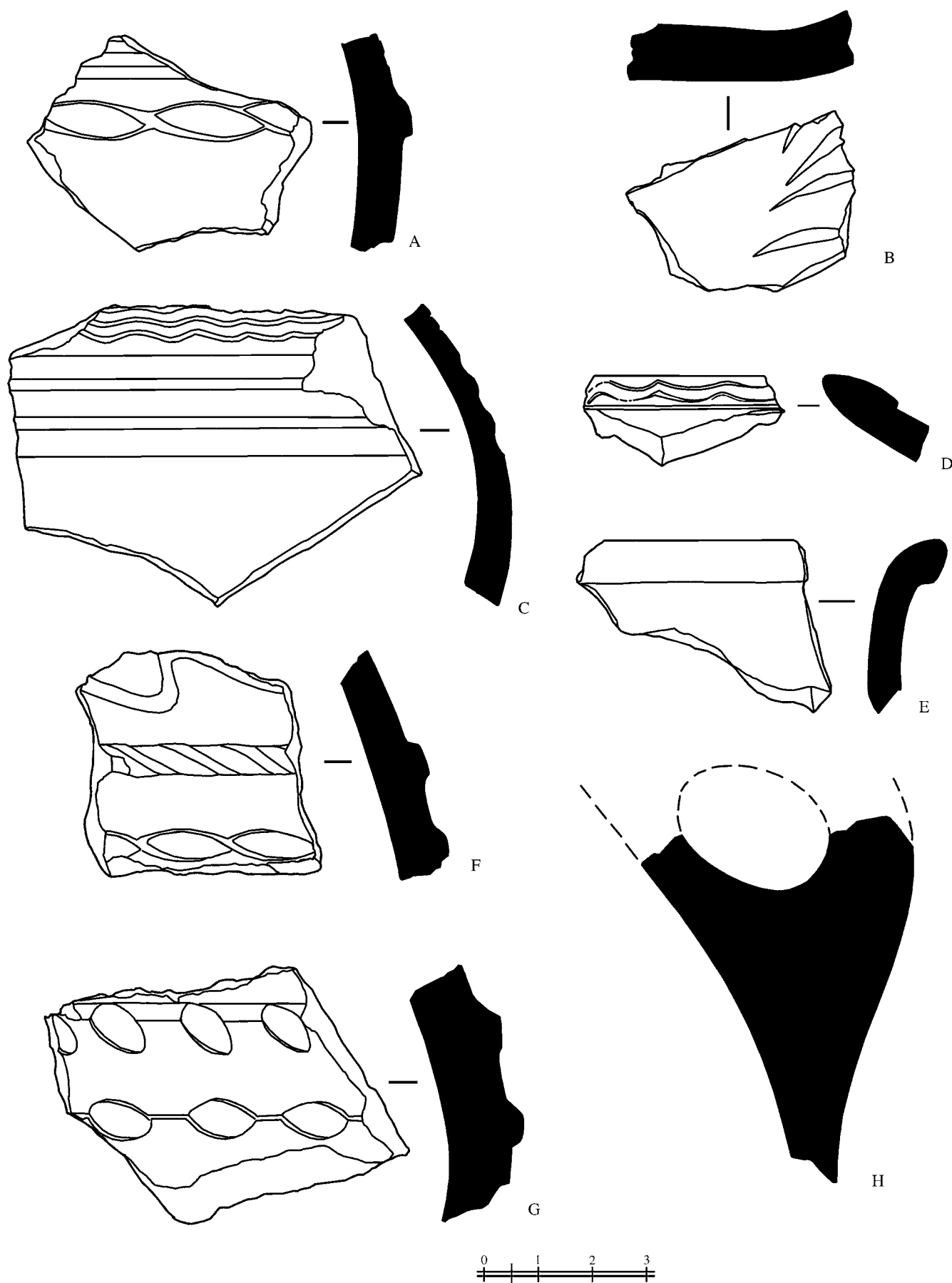


Figure 62. Surface Materials from Tsaghkahovit Fortress:
(a–d, f, h) Late Bronze III/Iron Ia and (e, g) Group D Ceramics

Figure 63. Surface Materials from Tsaghkahovit Fortress: Group A and Late Bronze III/Iron Ia Ceramics

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>	<i>i</i>	<i>j</i>	<i>k</i>	<i>l</i>	<i>m</i>
<i>Locus</i>	Kalachi 2	Kalachi 12	West Settlement 2	Kalachi 7	Kalachi 1	Kalachi 12	Kalachi 1	Kalachi 14	Kalachi 1/F1	Kalachi 2	Kalachi 5/F2	Kalachi 12	Kalachi 5
<i>Sherd No.</i>	10	7	3	1	6	17	4	11	2	11	3	15	3
<i>Period</i>	A*	A	A	A	A	A	A	A	A	A	Late Bronze III/Iron Ia	A	A
<i>Fragment</i>	Rim	Rim	Rim	Rim	Rim	Rim	Rim	Rim	Rim	Rim	Rim	Rim	Rim
<i>Form</i>	Closed Jar	Closed Jar	Jar	Closed Jar	Closed Jar	Jar	Open Jar	Open Jar	Open Jar	Jar	Bowl	Bowl	Cup
<i>Rim Variant</i>	Rounded	Band	Band	Band	Rounded	Band	Ledge	Ledge	Flared Rounded	Band	Hammer Head	Straight	Rounded
<i>Exterior Color</i>	Gray	Gray	Orange	Buff	Gray	Buff	Buff	Orange	Brown	Buff	Gray	Orange	Gray
<i>Interior Color</i>	Gray	Brown	Gray	Buff	Gray	Orange	Orange	Gray	Orange	Buff	Gray	Orange	Gray
<i>Fabric Color</i>	Gray	Brown	Orange	Gray	Gray	Orange	Orange	Gray	Gray	Gray	Gray	Orange	Gray
<i>Inclusions</i>	Medium	Coarse	Coarse	Coarse	Coarse	Coarse	Medium	Coarse	Medium	Medium	Fine	Coarse	Fine
<i>Slip</i>	Yes	No	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes
<i>Surface Treatment</i>	Smoothed	Polished	Polished	Smoothed	Smoothed	Smoothed	Polished	N/A	Burn	Smoothed	Polished	Polished	Polished
<i>Rim Diameter / Percent</i>	13.5 cm / 8%	22.0 cm / 7%	18.0 cm / 7%	18.0 cm / 10%	12.0 cm / 10%	14.0 cm / 8%	16.0 cm / 8%	12.0 cm / 7%	10.0 cm / 6%	12.0 cm / 12%	30.0 cm / 4%	12.5 cm / 5%	8.0 cm / 9%

* Group A = Late Bronze I–Iron I; see table 1.

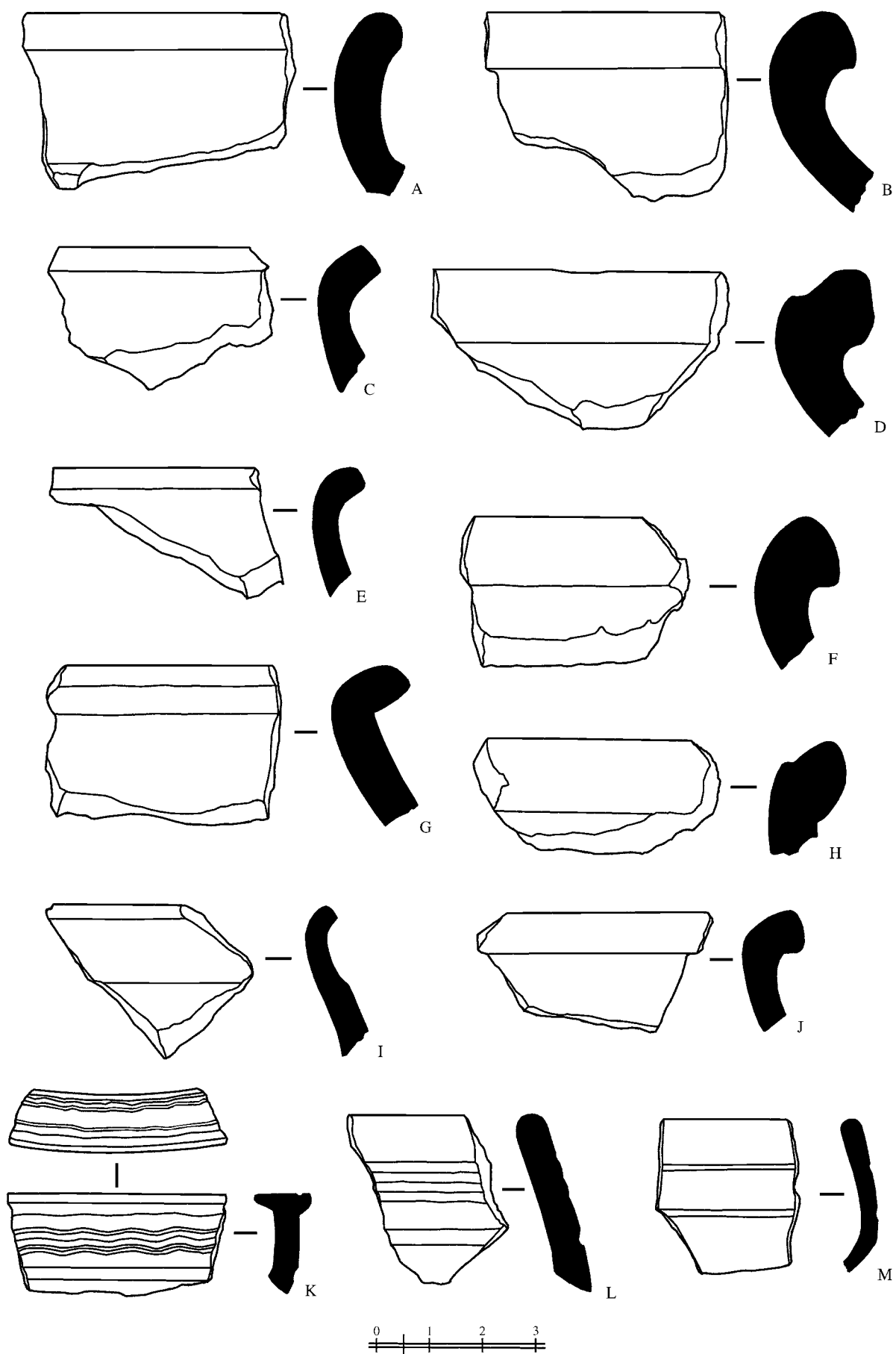


Figure 63. Surface Materials from Tsaghkahovit Fortress:
(a–j, l–m) Group A and (k) Late Bronze III/Iron Ia Ceramics

Figure 64. Surface Materials from Tsaghkahovit Fortress: Groups A and B Ceramics

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>	<i>i</i>	<i>j</i>	<i>k</i>	<i>l</i>
<i>Locus</i>	Kalachi 14	Kalachi 4	Kalachi 14	Kalachi 12	Kalachi 12	Kalachi 5/ F2	Kalachi 14	East Settment 3	South Settlement 2	Kalachi 1/ F1	Kalachi 8/9	Kalachi 10
<i>Sherd No.</i>	15	1	13	11	14	1	3	1	4	4	3	2
<i>Period</i>	A*	A	A	A	A	B**	A	A	A	A	A	A
<i>Fragment</i>	Rim	Rim	Rim	Rim	Rim	Rim– Shoulder	Rim– Shoulder	Rim	Rim	Shoulder	Shoulder	Shoulder
<i>Form</i>	Closed Jar	Closed Jar	Open Jar	Closed Jar	Bowl	Bowl	Closed Jar	Closed Jar	Cup	Jar	Jar	Closed Jar
<i>Rim Variant</i>	Band	Rounded	Flaring Rounded	—	Straight	Straight	Rounded	Band	Straight	—	—	—
<i>Exterior Color</i>	Buff	Gray	Gray	Gray	Buff	Brown	Black	Brown	Brown	Gray	Buff	Brown
<i>Interior Color</i>	Buff	Gray	Orange	Brown	Buff	Brown	Gray	Brown	Brown	Orange	Orange	Brown
<i>Fabric Color</i>	Buff	Gray	Orange	Brown	Brown	Brown	Gray	Gray	Brown	Orange	Gray	Brown
<i>Inclusions</i>	Medium	Coarse	Coarse	Coarse	Coarse	Medium– Fine	Medium	Coarse	Medium	Medium	Coarse	Coarse
<i>Slip</i>	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Surface Treatment</i>	Smoothed	Smoothed	Smoothed	Smoothed	Smoothed	Polished	Polished	Polished	Polished	Smoothed	Smoothed	Smoothed
<i>Rim Diameter / Percent</i>	16.0 cm / 10%	21.0 cm / 6%	21.0 cm / 8%	38.0 cm / 3%	18.0 cm / 6%	—	—	21.0 cm / 10%	12.0 cm / 10%	—	—	14.0 cm / 6%

* Group A = Late Bronze I–Iron I; see table 1.

** Group B = Late Bronze III–Iron I; see table 1.

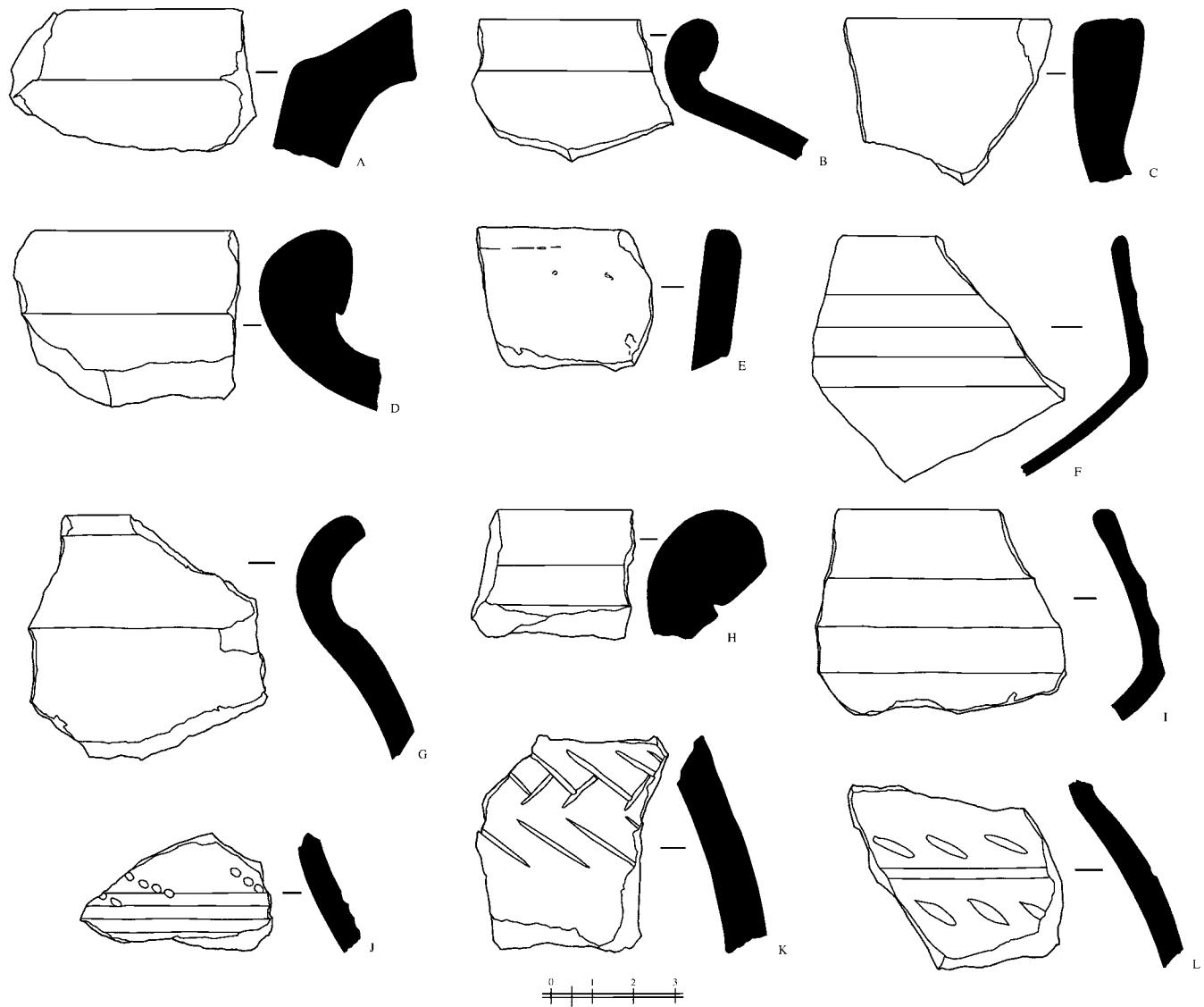


Figure 64. Surface Materials from Tsaghkahovit Fortress:
(a–e, g–l) Group A and (f) Group B Ceramics

Figure 65. Surface Materials from Tsaghkahovit Fortress: Groups A, B, and D Ceramics

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>
<i>Locus</i>	Kalachi 10	Kalachi 5/F2	Kalachi 1	Kalachi 5/F2	Kalachi 14	Kalachi 4
<i>Sherd No.</i>	1	2	5	4	2	1
<i>Period</i>	A*	B**	A	B	D***	A
<i>Fragment</i>	Rim	Rim	Shoulder– Handle Join	Rim	Shoulder	Rim
<i>Form</i>	Cup	Closed Jar	Open Jar	Closed Jar	Jar	Closed Jar
<i>Rim Variant</i>	Straight Round	Flat	—	Rounded Everted	—	Rounded
<i>Exterior Color</i>	Brown	Orange	Gray	Brown	Gray	Gray
<i>Interior Color</i>	Brown	Orange	Gray	Gray	Gray	Gray
<i>Fabric Color</i>	Gray	Orange	Gray	Brown	Gray	Gray
<i>Inclusions</i>	Medium	Coarse	Coarse	Coarse	Medium	Coarse
<i>Slip</i>	No	Yes	Yes	Yes	Yes	No
<i>Surface Treatment</i>	Smoothed	Smoothed	Polished	Polished	Smoothed	Smoothed
<i>Rim Diameter / Percent</i>	—	20.0 cm / 6%	—	14.0 cm / 17%	—	21.0 cm / 6%

* Group A = Late Bronze I–Iron I; see table 1.

** Group B = Late Bronze III–Iron I; see table 1.

*** Group D = Late Bronze I–III; see table 1.

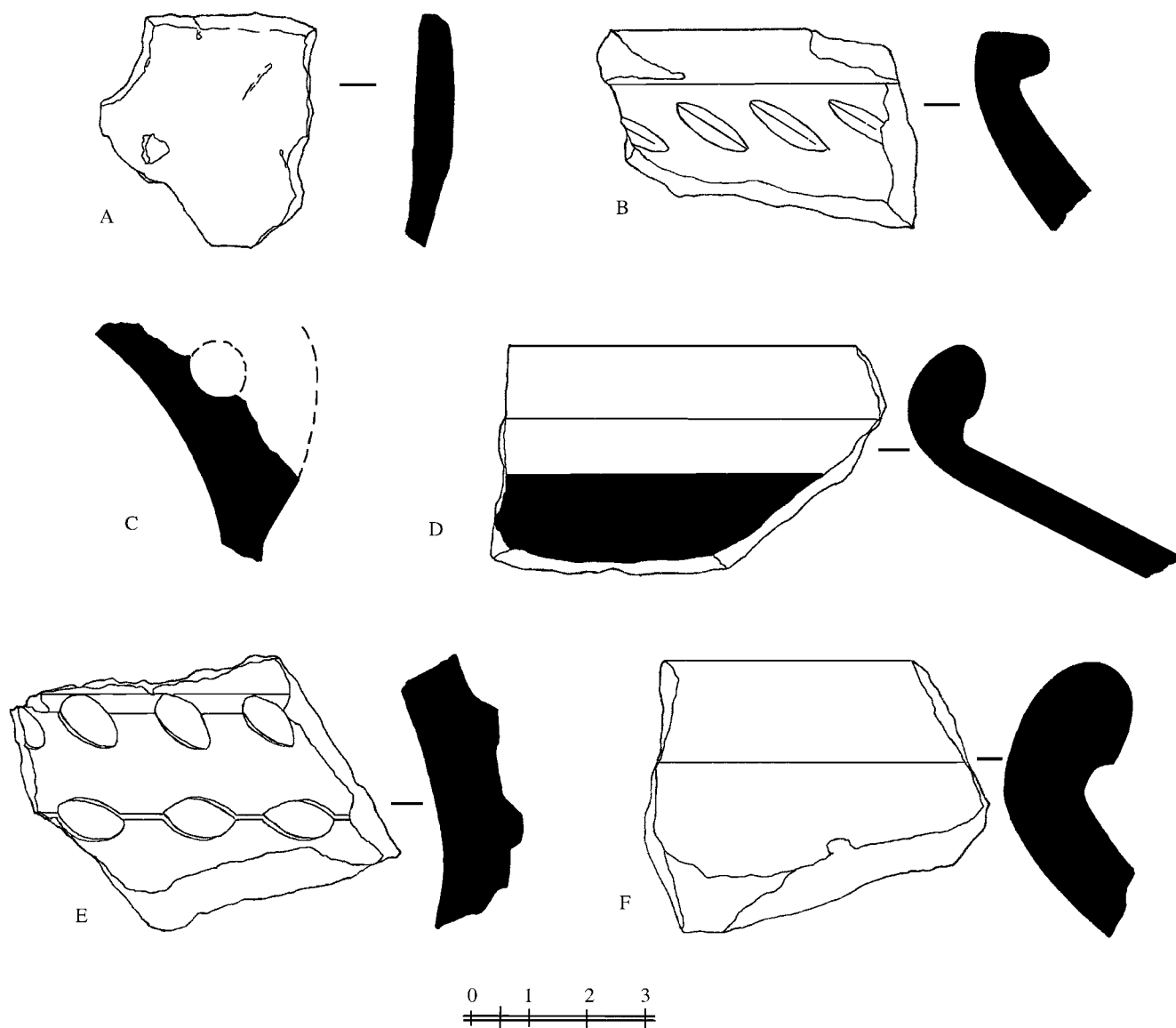


Figure 65. Surface Materials from Tsaghkahovit Fortress:
(a, c, f) Group A, (b, d) Group B, and (e) Group D Ceramics

Figure 66. Surface Materials from Tsaghkahovit Fortress: Group C Ceramics

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>
<i>Locus</i>	Kalachi 14	Kalachi 14	Kalachi 14	Kalachi 14	—
<i>Sherd No.</i>	17	19	18	16	—
<i>Period</i>	C*	C	C	C	—
<i>Fragment</i>	Rim	Rim	Rim	Rim	—
<i>Form</i>	Cup	Closed Jar	Cup	Bowl	—
<i>Rim Variant</i>	Flat	Band	Hammer Head	Flat	—
<i>Exterior Color</i>	Orange	Buff	Red	Brown	—
<i>Interior Color</i>	Orange	Buff	Red	Brown	—
<i>Fabric Color</i>	Gray	Gray	Gray	Gray	—
<i>Inclusions</i>	Medium	Medium	Medium	Coarse	—
<i>Slip</i>	Yes	Yes	Yes	Yes	—
<i>Surface Treatment</i>	Polished	Polished	Polished	Polished	—
<i>Rim Diameter / Percent</i>	32.0 cm / 5%	28.0 cm / 5%	N/A	36.0 cm / 4%	—

* Group C = Iron IIIa–Medieval; see table 1.

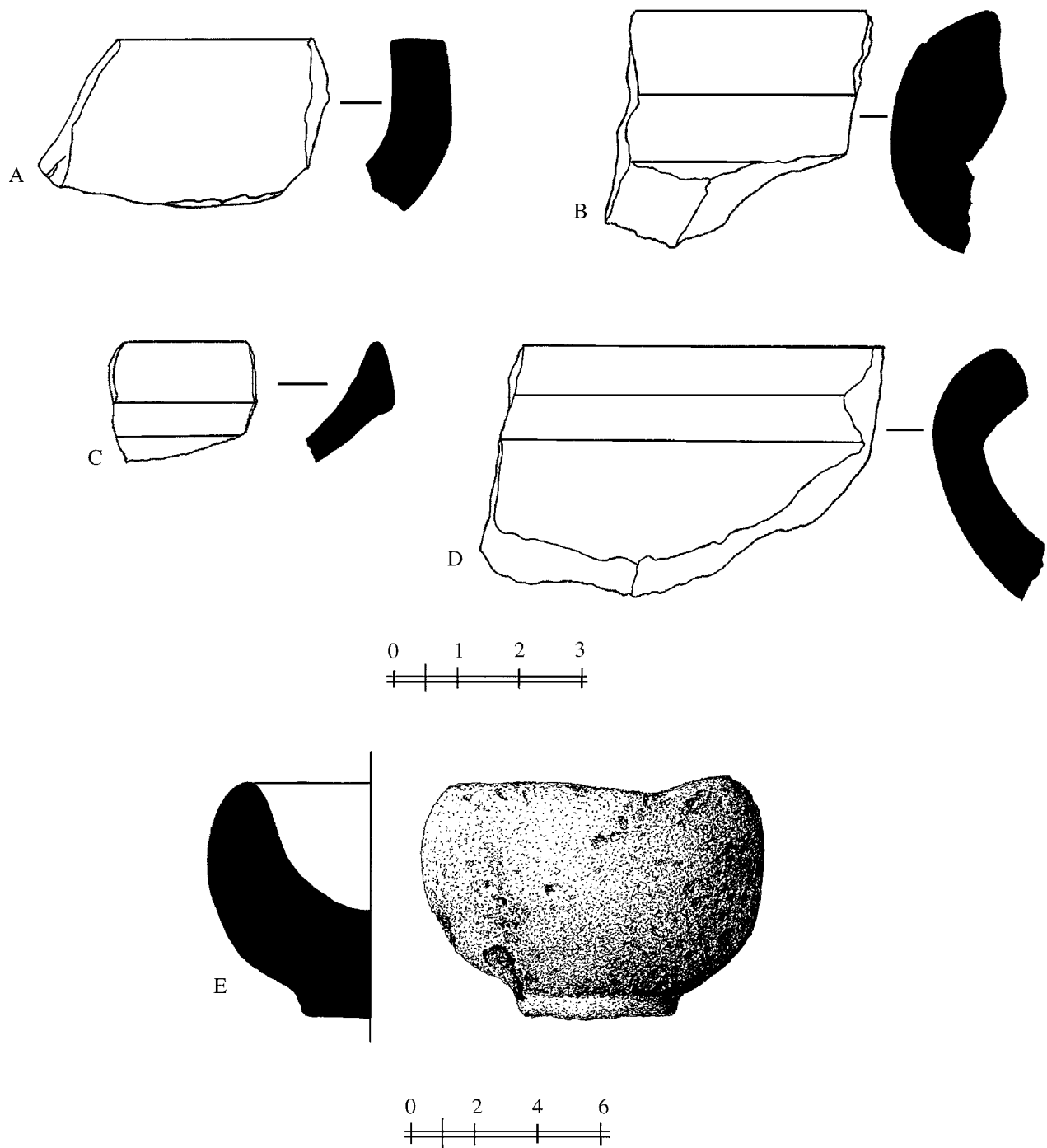


Figure 66. Surface Materials from Tsaghkahovit Fortress:
Group C Ceramics

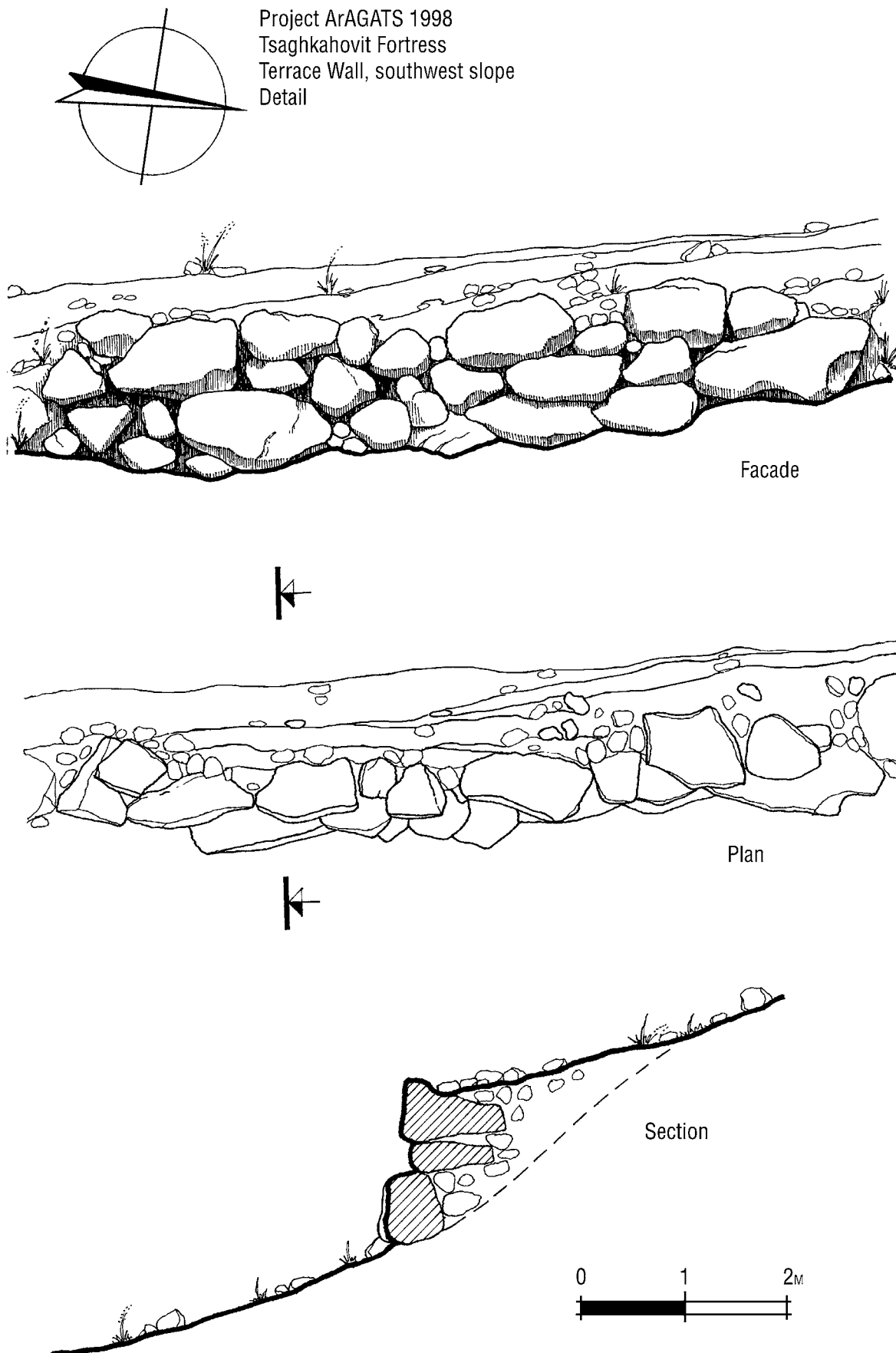


Figure 67. Terrace Wall on Southwest Slope of Tsaghkahovit Fortress (Kalachi Tepe)

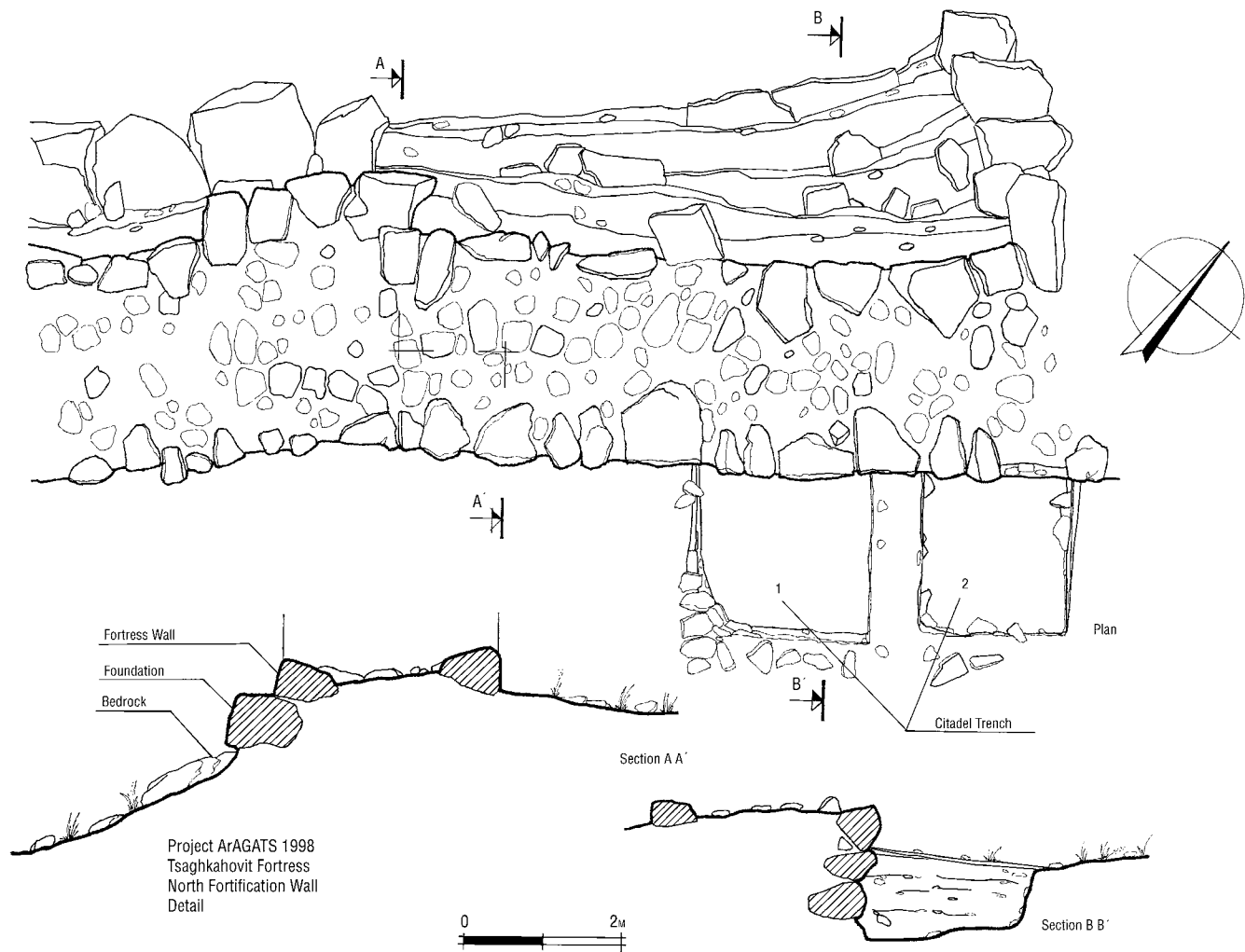


Figure 68. Tsaghkahovit Fortress Fortification Wall

TSILKAR (TOP KAR)

FORTRESS

PLACE NUMBER	Ar/Tk	ILLUSTRATION	Figs. 47, 69; Pls. 24, 33, 38, 68b
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,456
UTM EASTING	434203	LATITUDE	40° 43.147'
UTM NORTHING	4508231	LONGITUDE	44° 13.374'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

The fortified outpost of Tsilkar (pl. 68b) lies 1.89 km northwest (bearing 349°) of Gegharot Fortress atop a tall rocky peak known locally as Top Kar (map quadrant E4f/j).

TOPOGRAPHY

Tsilkar Fortress was constructed atop a severe rock outcrop in the initial line of the Pambak range above the modern village of the same name. The rock spires of Tsilkar Fortress are entirely denuded but form a small saddle that was fortified by a series of short walls on the southeast, north, and west sides (pls. 33, 38).

GENERAL DESCRIPTION

The walls of Tsilkar are in general poorly preserved except on the more gentle north-facing slope. Here, the walls are preserved for three to five courses. They are made of irregular stone blocks set in uneven courses, although the line is well carpentered. The gateway into the site appears to have been set along the western slope where a steep trail provides access to the citadel.

ASSOCIATED FEATURES AND MATERIALS

Very few surface materials were found during survey of the site in 2000 and a re-visit in 2004 (figs. 47, 69). The few diagnostic sherds that were recovered ($n = 20$) were assigned to Group A (Late Bronze/Iron I) and a sounding conducted at the site in 2000 produced very few materials (only two indeterminate sherds). Nevertheless, the fortress does appear to be most securely attributable to the same Late Bronze building programs that established the outposts at Poloz-Sar and Ashot-Yerkat. See Badalyan, Smith, and Avetisyan 2003; Smith et al. 2004.

Figure 69. Surface Materials from Tsilkar (Top Kar) Fortress: Group A Ceramics

	<i>a</i>	<i>b</i>	<i>c</i>
<i>Locus</i>	Ar/Tk Surface	Ar/Tk Surface	Ar/Tk Surface
<i>Sherd No.</i>	3	2	1
<i>Period</i>	A*	A	A
<i>Fragment</i>	Shoulder	Shoulder	Shoulder
<i>Form</i>	—	—	—
<i>Rim Variant</i>	—	—	—
<i>Exterior Color</i>	Buff	Buff	Gray
<i>Interior Color</i>	Buff	Buff	Gray
<i>Fabric Color</i>	Gray	Gray	Gray
<i>Inclusions</i>	Coarse	Coarse	Medium–Coarse
<i>Slip</i>	Yes	Yes	Yes
<i>Surface Treatment</i>	Smoothed	Smoothed	Smoothed
<i>Rim Diameter / Percent</i>	—	—	—

* Group A = Iron IIIa–Medieval; see table 1.

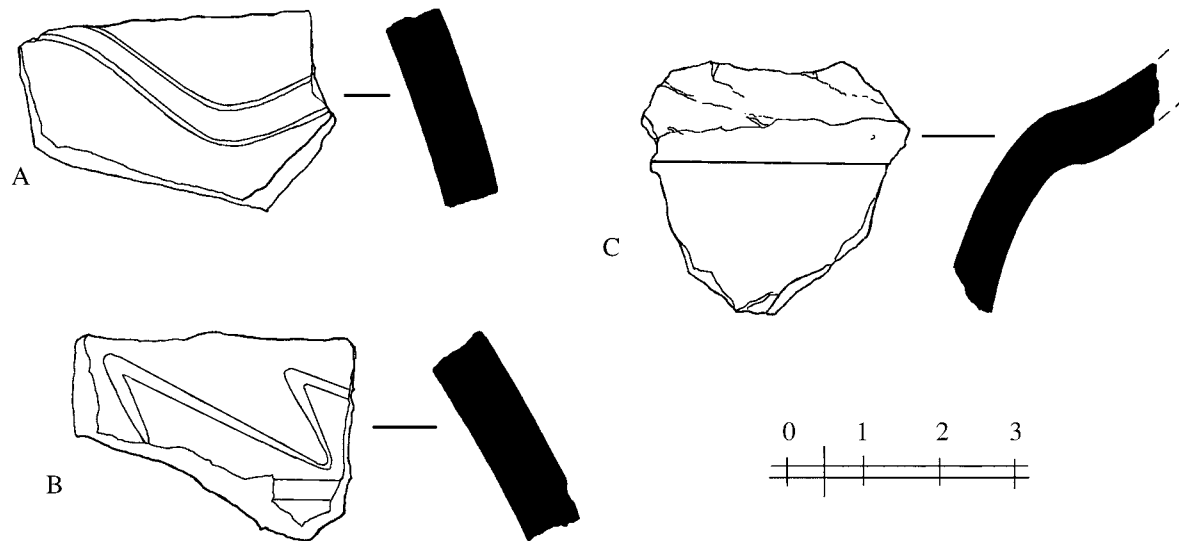


Figure 69. Surface Materials from Tsilkar (Top Kar) Fortress: Group A Ceramics

ISOLATED ARCHITECTURE

APARAN QUADRANT

ISOLATED ARCHITECTURE 1

PLACE NUMBER	Ar/Ap.07.01	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,213
UTM EASTING	438418	LATITUDE	40° 37.852'
UTM NORTHING	4498035	LONGITUDE	44° 16.310'
PERIODIZATION	N/A		

ASSOCIATION

Located 0.5 km south of Korbulag village, just southwest of Stela A1 (map quadrant B5o).

TOPOGRAPHY

Site is set on the west slope of a gently rising bedrock ridge.

GENERAL DESCRIPTION

This stone construction appears to be a single line of wall. The masonry is not visible from the surface, but the stones do not appear to be faced. The wall segment extends 11.3 m along the slope.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

GEGHAROT QUADRANT

ISOLATED ARCHITECTURE 1

PLACE NUMBER	Ar/Ge.04.01	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,442
UTM EASTING	434738	LATITUDE	40° 43.395'
UTM NORTHING	4508322	LONGITUDE	44° 13.634'
PERIODIZATION	Late Bronze/Iron I(?)		

ASSOCIATION

Wall line lies 0.17 km west of Ashot-Yerkat Fortress and 0.55 km northeast (bearing 70°) from Tsilkar Fortress (map quadrant E4k).

TOPOGRAPHY

This isolated wall was built across a narrow defile passing between a sizable bedrock outcrop on its eastern flank and a deep canyon on its western flank.

GENERAL DESCRIPTION

This masonry wall is built from large, unworked basalt blocks, averaging approximately 1 m in diameter. The wall is 1.2 m in width, although it is not well carpentered, so its dimensions vary. The construction is convex, defining an arc segment that bulges to the south. The wall stretches 21.6 m in an east–west direction from a bedrock outcrop to the edge of a steep canyon. The preservation of the structure is quite remarkable as it still stands between 1.0 and 1.2 m high in places.

ASSOCIATED FEATURES AND MATERIALS

No surface materials were found in association with this architecture, so it is not possible to provide a definitive date for its construction. However, it is important to note that it appears to defend one small pass through the Pambak hills. Only in the Late Bronze Age do we have a clear system of defensive works supervising the passes above Gegharot. Therefore, it seems plausible to tentatively suggest that this wall was part of this larger Late Bronze defensive network.

ISOLATED ARCHITECTURE 2

PLACE NUMBER	Ar/Ge.27.01	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,388
UTM EASTING	436678	LATITUDE	40° 43.223'
UTM NORTHING	4507977	LONGITUDE	44° 15.014'
PERIODIZATION	Late Bronze/Iron I(?)		

ASSOCIATION

This wall is located just 0.2 km west of Poloz-Sar Fortress (map quadrant E5e).

TOPOGRAPHY

Located on the approach to Poloz-Sar, this linear feature was built on a steep slope, overlooking a natural terrace below the western flank of the fortress.

GENERAL DESCRIPTION

This linear-shaped stone feature is located just 150 m downslope from Poloz-Sar's outer wall. It extends roughly north–south for about 35 m and ranges between 3 and 4 m in thickness. Only the top of the wall is visible, so there is no section view available. The visible masonry is composed primarily of small to medium stones (averaging 50 to 20 cm in length) with shaped outer faces and no clear evidence of mortar or a rubble core.

ASSOCIATED FEATURES AND MATERIALS

No surface materials. However, it is quite likely that this wall is associated with Poloz-Sar Fortress, perhaps as an outer defensive work guarding the more gentle western approach to the site.

ISOLATED ARCHITECTURE 3

PLACE NUMBER	Ar/Ge.66.03	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,342
UTM EASTING	434373	LATITUDE	40° 43.154'
UTM NORTHING	4507883	LONGITUDE	44° 13.377'
PERIODIZATION	N/A		

ASSOCIATION

This isolated architectural feature is located on the southern slope below Tsilkar Fortress (0.39 km, bearing 154°), 0.3 km northwest of Gegharot Burial Cluster 10 (map quadrant E4g).

TOPOGRAPHY

Gegharot Isolated Architecture 3 is set in a grassy saddle between two small rocky peaks. The area is sloped slightly southwest but in general is one of the only flat areas on the mid-Pambak slope. Soil deposits appear to be significant, as the area lacks the weathered outcrops of bedrock typical of surrounding locales.

GENERAL DESCRIPTION

Only the very top of this line of stones is visible. The construction extends for 14 m bearing roughly 16° along a straight line, curving slightly on its northern end. The width of this wall varies considerably, as does the feature's surface visibility, but seems to average less than 25 cm. The visible stones are medium, unworked granite and basalt. They are set in a single line, suggesting the construction may have served more as a terrace or informal partition rather than as a wall.

ASSOCIATED FEATURES AND MATERIALS

A single obsidian flake was found adjacent to the wall.

HNABERD QUADRANT

ISOLATED ARCHITECTURE 1

PLACE NUMBER	Ar/Hn.04.01	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,251
UTM EASTING	428470	LATITUDE	40° 37.416'
UTM NORTHING	4497319	LONGITUDE	44° 09.256'
PERIODIZATION	Medieval(?)		

ASSOCIATION

Hnaberd Isolated Architecture 1 was found 1.12 km southwest (bearing 245°) of Gekhadzor Fortress and 0.88 km north (bearing 6°) of Hnaberd Fortress (map quadrant B3m).

TOPOGRAPHY

Set next to a small, swiftly flowing creek, these constructions were built on the flatland of the Tsaghkahovit Plain, half a kilometer from the foot of Mount Aragats.

HNABERD QUADRANT (*cont.*)

GENERAL DESCRIPTION

The primary architecture extant at this site consists of two parallel stone walls, 12.0 m long \times 1.9 m wide. Adjacent is a pit, 7 m in diameter, now largely infilled. The masonry of the walls appears to be stone on stone with no visible intervening core. The stones do appear to have been faced and the lines are well carpentered. An intriguing secondary feature is a stone-lined channel, 100 m to the southeast, that may have been associated. The channel is 2.0–2.5 m in width and lined with cut basalt slabs.

ASSOCIATED FEATURES AND MATERIALS

Although no surface materials were recovered here, the combination of the stream and the built water channel, filled by snow melt from Mount Aragats, hints that this may have been a medieval-era flour mill. But this is at present only speculation, as no materials were recovered to confirm either the date or function of the construction.

ISOLATED ARCHITECTURE 2

PLACE NUMBER	Ar/Hn.359.02	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,249
UTM EASTING	428480	LATITUDE	40° 37.146'
UTM NORTHING	4496829	LONGITUDE	44° 09.280'
PERIODIZATION	N/A		

ASSOCIATION

This construction was found 0.4 km north (bearing 15°) of Hnaberd Fortress and 0.5 km south (bearing 180°) of Hnaberd Isolated Architecture 1 (map quadrant B3i).

TOPOGRAPHY

Hnaberd Isolated Architecture 2 lies at the foot of Hnaberd Fortress, on a gentle north-facing slope.

GENERAL DESCRIPTION

Two lines of perpendicular walls are visible from the surface. One line is 6 m long, oriented northwest–southeast. The second is 8 m long and oriented northeast–southwest. They are both double faced and constructed of medium to large basalt blocks. The corner where they would join or abut is submerged.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

MANTASH QUADRANT

ISOLATED ARCHITECTURE 2

PLACE NUMBER	Ar/Ma.41.05	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,455
UTM EASTING	422086	LATITUDE	40° 36.137'
UTM NORTHING	4495017	LONGITUDE	44° 04.745'
PERIODIZATION	N/A		

ASSOCIATION

Located just north of Mantash Burial Cluster 19, this single wall can be found 4.33 km southeast (bearing 158°) of Mets Mantash village (map quadrant B1b).

TOPOGRAPHY

This wall is situated on the crest of a tall ridge that rises up from the cascading slope of Mount Aragats.

GENERAL DESCRIPTION

Filled with a rubble core, this construction is double faced with basalt and tuff cobbles. It measures 5.25 m in length and 55 cm wide and runs at a bearing of 140°.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

ISOLATED ARCHITECTURE 4

PLACE NUMBER	Ar/Ma.41.01	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,439
UTM EASTING	426594	LATITUDE	40° 36.129'
UTM NORTHING	4494955	LONGITUDE	44° 07.943'
PERIODIZATION	N/A		

ASSOCIATION

Located 2.39 km southwest (bearing 224°) of Hnaberd Fortress, this wall appears in a rather empty quadrant of the survey area, with little in the way of neighboring places (map quadrant B2c).

TOPOGRAPHY

The wall is set adjacent to, and perhaps partly in, the rocky bed of a moderately sized stream that descends the slopes of Mount Aragats.

GENERAL DESCRIPTION

Constructed from unworked basalt cobbles, this linear construction is oriented east–west at a bearing of 94°. The construction is two cobbles thick, measuring 7 m in length and 75 cm wide.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

ISOLATED ARCHITECTURE 5

PLACE NUMBER	Ar/Ma.28.05	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,365
UTM EASTING	423148	LATITUDE	40° 36.536'
UTM NORTHING	4495744	LONGITUDE	44° 05.493'
PERIODIZATION	N/A		

ASSOCIATION

This small wall is located just 0.30 km southeast of Mantash Isolated Architecture 12, 4.23 km southeast (bearing 141°) of Mets Mantash village (map quadrant B1g).

TOPOGRAPHY

Like Mantash Isolated Architecture 12, this construction is set on a gently sloping shoulder of Mount Aragats.

MANTASH QUADRANT (*cont.*)

GENERAL DESCRIPTION

Measuring 24 m in length and 1 m in width, this linear stone construction is built with shaped basalt and tuff blocks oriented roughly north–south (bearing 172°).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

ISOLATED ARCHITECTURE 8

PLACE NUMBER	Ar/Ma.02.01	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,210
UTM EASTING	427025	LATITUDE	40° 37.266′
UTM NORTHING	4497055	LONGITUDE	44° 08.232′
PERIODIZATION	N/A		

ASSOCIATION

These constructions are found 1.30 km northwest (bearing 283°) of Hnaberd Fortress, just 0.85 km southwest (bearing 194°) of the outskirts of Hnaberd village (map quadrant B2k).

TOPOGRAPHY

Mantash Isolated Architecture 8 was built on a low hill near the foot of Mount Aragats.

GENERAL DESCRIPTION

Two linear features built of unshaped basalt blocks of varying sizes appear to intersect at this point. Although the point of intersection is not visible from the surface, there is only a 20 cm gap.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a single line of stones, 26 m long at a bearing of 285°.

Feature 2 is 19 m long and oriented roughly north (bearing 5°).

ISOLATED ARCHITECTURE 10

PLACE NUMBER	Ar/Ma.55.02	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,549
UTM EASTING	424858	LATITUDE	40° 35.755′
UTM NORTHING	4494280	LONGITUDE	44° 06.716′
PERIODIZATION	N/A		

ASSOCIATION

Located 1.0 km east (bearing 96°) of Mantash settlement and 8.29 km southwest (bearing 253°) of Hnaberd Fortress, this isolated architecture is one of the southernmost places located during the survey (map quadrant B2a).

TOPOGRAPHY

The construction is set on a broad flat shoulder of Mount Aragats.

GENERAL DESCRIPTION

The architecture consists of two square platforms constructed of small basalt and tuff cobbles. Both look much like tent platforms with the cobble construction serving to drain the surface. The two platforms are 89 m apart.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 measures 5.20 m north–south \times 4.97 m east–west. A slight mound raises it above the level of the surrounding ground surface.

Feature 2 is less regular with more rounded corners. The construction is 11.2 m north–south \times 14.1 m east–west.

ISOLATED ARCHITECTURE 12

PLACE NUMBER	Ar/Ma.26.05	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,343
UTM EASTING	422911	LATITUDE	40° 36.635'
UTM NORTHING	4495930	LONGITUDE	44° 05.325'
PERIODIZATION	N/A		

ASSOCIATION

Located 5.41 km west (bearing 268°) of Hnaberd Fortress and 3.96 km southeast of Mets Mantash village (map quadrant B1g).

TOPOGRAPHY

This wall is set on a gently sloping shoulder of Mount Aragats.

GENERAL DESCRIPTION

Extending 50 m north–south, this linear stone feature is built of double-faced dry stone masonry. It averages 1.5 m in thickness.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

ISOLATED ARCHITECTURE 13

PLACE NUMBER	Ar/Ma.26.06	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,381
UTM EASTING	425323	LATITUDE	40° 36.607'
UTM NORTHING	4495851	LONGITUDE	44° 07.035'
PERIODIZATION	Modern		

ASSOCIATION

Located 3.06 km southwest (bearing 285°) of Hnaberd Fortress (map quadrant B2e).

TOPOGRAPHY

This isolated construction is set atop a rocky promontory that drops dramatically away on both the east and west sides.

MANTASH QUADRANT (*cont.*)

GENERAL DESCRIPTION

This place consists solely of an isolated wall that appears to use unworked stones set in concrete.

ASSOCIATED FEATURES AND MATERIALS

No surface materials except rusted wire.

ISOLATED ARCHITECTURE 14

PLACE NUMBER	Ar/Ma.35.01	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,401
UTM EASTING	422405	LATITUDE	40° 36.290'
UTM NORTHING	4495296	LONGITUDE	44° 04.970'
PERIODIZATION	N/A		

ASSOCIATION

Set atop a ridge above Mantash Burial Cluster 14, these walls are located 4.22 km southeast (bearing 161°) of Mets Mantash village (map quadrant B1g).

TOPOGRAPHY

This construction is set on a hilltop of a north–south-running ridge.

GENERAL DESCRIPTION

Constructed from tuff and basalt cobbles, two walls set perpendicular to one another hint at the remains of a room. One wall is 9.5 m in length and extends roughly north–south parallel to the course of the ridge. The second wall joins with the first in one corner to form a 90° angle. The second wall is 6.7 m long.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

SAHAKABERD QUADRANT

ISOLATED ARCHITECTURE 1

PLACE NUMBER	Ar/Sk.323.03	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,207
UTM EASTING	432988	LATITUDE	40° 36.585'
UTM NORTHING	4495739	LONGITUDE	44° 12.472'
PERIODIZATION	N/A		

ASSOCIATION

This isolated construction is located 0.22 km southwest (bearing 229°) of Tsaghkahovit Burial Cluster 99 (map quadrant B4e).

TOPOGRAPHY

Sahakaberd Isolated Architecture 1 is built along the lower southwestern slope of a denuded outcrop, adjacent to an area littered with large basalt boulders.

GENERAL DESCRIPTION

A stone wall 8 m long, this construction consists primarily of a single line of large, unworked basalt blocks oriented northwest–southeast. The northwestern final 2 m show signs of double-faced construction, but this is not visible anywhere else along the wall's extent.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

TSAGHKAHOVIT QUADRANT

ISOLATED ARCHITECTURE 1

PLACE NUMBER	Ar/Ts.167.01	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,049
UTM EASTING	436549	LATITUDE	40° 38.362'
UTM NORTHING	4499002	LONGITUDE	44° 14.991'
PERIODIZATION	N/A		

ASSOCIATION

Located 1.57 km east (bearing 78°) from Tsaghkahovit Fortress (map quadrant C5a).

TOPOGRAPHY

This small isolated wall was found on a flat ridgetop, bisecting a small grassy area.

GENERAL DESCRIPTION

This architectural feature is composed of two intersecting linear basalt constructions. They are each one course thick. One wall is 1 m wide × 12 m long, oriented roughly north–south (bearing 278°). The second wall is also 1 m wide, but only 9 m long and oriented due east–west.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

ISOLATED ARCHITECTURE 2

PLACE NUMBER	Ar/Ts.018.05	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,277
UTM EASTING	435326	LATITUDE	40° 37.803'
UTM NORTHING	4497979	LONGITUDE	44° 14.106'
PERIODIZATION	N/A		

ASSOCIATION

This rubble wall was found just 100 m southeast of Tsaghkahovit Burial Cluster 4, overlooking Tsaghkahovit Burial Cluster 9 (map quadrant B4o).

TOPOGRAPHY

The construction is set on the northern edge of a small flat valley, at the bottom of a steep volcanic ridge.

GENERAL DESCRIPTION

This isolated wall extends for 226 m on a bearing of 35° before curving southeast (bearing 106°) for an additional 15 m. Although broken by a 25 m hiatus, the wall emerges again on the south side of the valley, where

TSAGHKAHOVIT QUADRANT (*cont.*)

it forms a 35 × 210 m rectilinear construction — half of a large, undivided, enclosed room. The northern section is built of a single line of shaped basalt building stones, varying in width from 15 to 45 cm. The shape of the construction and its position near the edge of the valley suggest it could be the result of field clearance. However, the stone blocks are very regular in size, suggesting a more architectural feature. It is possible that cultivation destroyed the missing half of the construction.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

ISOLATED ARCHITECTURE 3

PLACE NUMBER	Ar/Ts.014.07	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,255
UTM EASTING	435124	LATITUDE	40° 37.534'
UTM NORTHING	4497476	LONGITUDE	44° 13.976'
PERIODIZATION	N/A		

ASSOCIATION

This construction was found 0.89 km east (bearing 103°) of the southern edge of Tsaghkahovit village, on a ridge overlooking Tsaghkahovit Burial Cluster 8 (map quadrant B4o).

TOPOGRAPHY

The wall was built on top of a curving narrow ridge oriented roughly north-northeast.

GENERAL DESCRIPTION

This half-moon-shaped construction, 10 m in diameter, is built of medium, unworked basalt blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

ISOLATED ARCHITECTURE 4

PLACE NUMBER	Ar/Ts.025.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,316
UTM EASTING	435704	LATITUDE	40° 37.705'
UTM NORTHING	4497786	LONGITUDE	44° 14.385'
PERIODIZATION	N/A		

ASSOCIATION

This isolated wall is located 1.12 km southeast (bearing 141°) of Tsaghkahovit Fortress (map quadrant B4p).

TOPOGRAPHY

This construction is located on the slope of a north-facing ridge and on the adjacent basin below.

GENERAL DESCRIPTION

Tsaghkahovit Isolated Architecture 4 includes two proximate but potentially distinct constructions.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 is a well-carpentered stone corner that appears to have been part of a small tower. Only one face of the corner is visible, but the stones are large, well-shaped blocks of basalt.

Feature 2 is a long stone wall that runs 40 m due north–south down the slope before making a 90° turn to the east at the base. The masonry is double faced with shaped, medium basalt blocks. Only the tops of both features are visible from the surface.

ISOLATED ARCHITECTURE 5

PLACE NUMBER	Ar/Ts.043.03	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,203
UTM EASTING	435877	LATITUDE	40° 37.621'
UTM NORTHING	4497664	LONGITUDE	44° 14.536'
PERIODIZATION	N/A		

ASSOCIATION

This elongated earthwork is found on the eastern flank of the same elevated basin that hosts Tsaghkahovit Burial Cluster 19, 0.18 km to the west (map quadrant B4p).

TOPOGRAPHY

The construction crosses the eastern flank of a narrow basin which bears the marks of cultivation. On its northeastern and southwestern ends, it partially ascends small bedrock outcrops. Near its center, the construction crosses a flat natural pathway between two cultivated basins.

GENERAL DESCRIPTION

The identification of this long earthwork as architecture is somewhat uncertain. For most of its 0.20 km the construction runs along the southeastern edge of a small field, suggesting it is the result of recent field clearance or amelioration. However, on either end a line of large, unworked basalt blocks and earth ascend small outcrops of weathered bedrock. Near the southern terminus of the construction is a more formalized architectural feature that appears to be a possible tower (see feature 1). Furthermore, only this edge of the field — the one without a protective overlooking ridgeline — bears evidence of possible construction. The construction is clearly visible in aerial photographs, extending southwest along a 305° bearing before turning due south up an eroded ridgeline. At the construction's northern end it turns sharply to the east before disappearing. Segments of a wall were picked up in transects 0.15 km to the east along the southern base of the same ridge; however, the articulation of these two constructions is only suggested by the aerial photos. This eastern extension is described here as feature 2.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1 appears to be the remains of a tower or bastion. Located at UTM Easting 435899, UTM Northing 4497640, the walls of the feature are well carpentered, extending for 6 m roughly east–west before turning a sharp 90° corner and disappearing to the west.

Feature 2 is an arc-shaped wall segment on the far eastern end of Tsaghkahovit Isolated Architecture 5. Aerial photos suggest that the two are joined into a single extensive linear feature, but it is possible that these are in fact unrelated. This segment of the wall is 46.0 m long, bearing 75°, and 2.4 m wide. It is built of large blocks of shaped basalt; however, the feature is too submerged to clearly see the masonry.

TSAGHKAHOVIT QUADRANT (*cont.*)*ISOLATED ARCHITECTURE 6*

PLACE NUMBER	Ar/Ts.062.04	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,295
UTM EASTING	436479	LATITUDE	40° 37.779'
UTM NORTHING	4497917	LONGITUDE	44° 14.934'
PERIODIZATION	N/A		

ASSOCIATION

A tower located atop a tall promontory, this construction is located just 0.83 km southeast (bearing 130°) of Tsaghkahovit Burial Cluster 35 and 1.66 km southeast (bearing 119°) of Tsaghkahovit Fortress. Feature 1 (also a stone tower) of Tsaghkahovit Isolated Architecture 5 is visible 0.4 km to the southwest bearing 244° (map quadrant B5m).

TOPOGRAPHY

The tower's position atop a tall outcrop affords it excellent views for approximately 300° of the surrounding area, from southwest to southeast (the southern approach is obscured).

GENERAL DESCRIPTION

The promontory holds several clusters of what appear to be fallen unworked blocks, but only in one area can the remains of regular architecture still be seen.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

The construction is roughly square, 5.50 m on each side, built of large, shaped basalt blocks which average 70 cm in length and width. It is thus highly reminiscent of the construction of the tower associated with Tsaghkahovit Isolated Architecture 5.

ISOLATED ARCHITECTURE 7

PLACE NUMBER	Ar/Ts.249.02	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,270
UTM EASTING	433942	LATITUDE	40° 37.105'
UTM NORTHING	4496692	LONGITUDE	44° 13.144'
PERIODIZATION	N/A		

ASSOCIATION

This tower is located 2.23 km southwest (bearing 208°) of Tsaghkahovit Fortress, adjacent to Tsaghkahovit Burial Cluster 81 (map quadrant B4j).

TOPOGRAPHY

Tsaghkahovit Isolated Architecture 7 is on an eroded ridgetop with steep precipices to the east and west.

GENERAL DESCRIPTION

The remains of this construction are in poor condition. A foundation approximately 4 m square is dimly visible among the basalt rubble that is now scattered across the area.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

ISOLATED ARCHITECTURE 8

PLACE NUMBER	Ar/Ts.505.03	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,467
UTM EASTING	436886	LATITUDE	40° 36.840'
UTM NORTHING	4496177	LONGITUDE	44° 15.233'
PERIODIZATION	N/A		

ASSOCIATION

This curvilinear wall was found atop a conical rise known locally as Shishtepe, 3.12 km southeast (bearing 143°) of Tsaghkahovit Fortress (map quadrant B5e).

TOPOGRAPHY

Shishtepe is a tall conical rise, similar in shape to the hill underneath Tsaghkahovit Fortress. The south slope is quite eroded, with large areas of exposed natural bedrock, while the northern slope is far more gentle with substantial soil deposits.

GENERAL DESCRIPTION

There are hints of several possible wall lines here but only one that is clearly visible. This wall encircles the top of the hill. It is double faced and built of large, worked basalt blocks. It is 2 m wide × 12 m in diameter. While a portion on the western edge is not visible (or perhaps destroyed), the remainder is in good condition.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

ISOLATED BURIALS**APARAN QUADRANT***ISOLATED BURIAL 1*

PLACE NUMBER	Ar/Ap.10.01	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,208
UTM EASTING	439835	LATITUDE	40° 37.793'
UTM NORTHING	4497917	LONGITUDE	44° 17.315'
PERIODIZATION	Modern		

ASSOCIATION

Although only 0.2 km south of Aparan Burial Cluster 1, this modern burial does not appear to be associated with the cromlech burial cluster just to the north (map quadrant B5p).

TOPOGRAPHY

Burial is set atop a promontory the extends north–northeast.

GENERAL DESCRIPTION

This oval-shaped burial, formally similar to a kurgan, is constructed of densely packed cobbles bracketed by larger stones around the periphery. The burial is oriented east–west and is 2.1 m in length.

ASSOCIATED FEATURES AND MATERIALS

Although no surface materials were found around the burial, its morphology and distinct lack of weathering or alluviation suggests that it is a very recent interment.

APARAN QUADRANT (*cont.*)*ISOLATED BURIAL 2*

PLACE NUMBER	Ar/Ap.14.02	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,205
UTM EASTING	438361	LATITUDE	40° 37.680'
UTM NORTHING	4497717	LONGITUDE	44° 16.270'
PERIODIZATION	Middle Bronze/Late Bronze		

ASSOCIATION

This cromlech is located 0.87 km south of Korbulag village in a small basin southwest of Aparan Burial Cluster 2 (map quadrant B5o).

TOPOGRAPHY

This isolated burial was found on the northern edge of a small basin running between irregular low bedrock outcrops.

GENERAL DESCRIPTION

Although not associated with any other burials, this cromlech is one of the larger recorded on our survey. It is 11.5 m in diameter east–west × 12.6 m in diameter north–south. The burial is made of roughly worked medium basalt blocks (generally ca. 50 × 50 cm) surrounding a stone and rubble interior. Small cobbles are particularly dense on the east side of the construction, indicating some disturbance. At the center, the ground surface is slightly depressed, suggesting either a slumped burial chamber or looting activity.

ASSOCIATED FEATURES AND MATERIALS

No surface materials, but the size and morphology of the burial suggest it should be dated either to the Middle Bronze Age or the early Late Bronze Age.

ISOLATED BURIAL 3

PLACE NUMBER	Ar/Ap.17.01	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,215
UTM EASTING	439135	LATITUDE	40° 37.607'
UTM NORTHING	4497576	LONGITUDE	44° 16.821'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

Aparan Isolated Burial 3 is located 1.13 km south-southeast of Korbulag village (map quadrant B5o).

TOPOGRAPHY

This cromlech was found on top of a small hill overlooking a shallow basin to the east.

GENERAL DESCRIPTION

This burial is a paved cromlech constructed of interlocking basalt blocks with a single large boulder on the west side of the feature. Only one arc segment of the surrounding ring of stones is visible, so it is unclear whether the large boulder is a capstone or unrelated to the burial. Extrapolating from the visible arc segment of the outer ring, the cromlech appears to be 2.80 m in diameter north–south × 3.00 m in diameter east–west. The center is slightly mounded, with small cobbles occasionally fitted between the blocks.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

GEGHAROT QUADRANT

ISOLATED BURIAL 2

PLACE NUMBER	Ar/Ge.14.02	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,299
UTM EASTING	435196	LATITUDE	40° 43.293'
UTM NORTHING	4508132	LONGITUDE	44° 13.961'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This isolated cromlech was discovered just 0.2 km due south of Gegharot Burial Cluster 4 (map quadrant E4g). It is entirely possible that this burial was originally part of Gegharot Burial Cluster 4 and that the intense disturbance of the site has effectively isolated this construction.

TOPOGRAPHY

Like Gegharot Burial Cluster 4, this cromlech is sited on a southeast-facing slope that drops precipitously into a steep ravine. The hillside is highly eroded and littered with boulders and blocks that often appear to have been shaped, but now lie on the surface, removed from their original context.

GENERAL DESCRIPTION

This small bedrock cromlech was built into the slope. Bedrock was lightly shaped to define the upslope arc of the outer ring while the remainder of the circle was built of small blocks. The visible capstone is very large — quite disproportionate to the 3.65 m diameter outer ring. The capstone is at least 95 cm long × 60 cm wide × 70 cm tall.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

KOLGAT QUADRANT

ISOLATED BURIAL 1

PLACE NUMBER	Ar/Ko.06.02	ILLUSTRATION	Pl. 20
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,324
UTM EASTING	425594	LATITUDE	40° 41.689'
UTM NORTHING	4505253	LONGITUDE	44° 07.160'
PERIODIZATION	Medieval(?)		

ASSOCIATION

This burial was found 5.23 km southeast (bearing 113°) of Kolgat Settlement 1 (map quadrant D2j).

TOPOGRAPHY

The burial is set on the western crest of a ridge descending the eastern flank of Mount Kolgat.

GENERAL DESCRIPTION

This place includes a single burial constructed of piled basalt and tuff cobbles. It appears to be a relatively recent (medieval or later) construction. While similar in construction to the piles of cobbles that mark earlier kurgans, this burial is laterally distended along the north–south axis and has little accumulated overburden. Possibly Islamic?

KOLGAT QUADRANT (*cont.*)

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

The tomb is 0.98 m east–west, 1.35 m north–south and mounded to a height of 35 cm above the surrounding terrain.

ISOLATED BURIAL 2

PLACE NUMBER	Ar/Ko.26.01	ILLUSTRATION	Pl. 20
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,326
UTM EASTING	425454	LATITUDE	40° 42.211'
UTM NORTHING	4506219	LONGITUDE	44° 07.054'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This isolated burial was found 0.15 km north (bearing 2°) of the northern edge of Kolgat Settlement 1 (map quadrant D2n).

TOPOGRAPHY

This cromlech is set at the base of a terminal northern spur of Mount Kolgat as it flattens into the gently sloping terrain of the northwestern passage between the Shirak and Tsaghkahovit plains.

GENERAL DESCRIPTION

A standard cromlech with no visible immediate associations.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

This cromlech's outer ring of medium, unworked blocks, 5.7 m in diameter, encircles two large central basalt capstones approximately 1.4 × 0.9 m in size.

MANTASH QUADRANT

ISOLATED BURIAL 1

PLACE NUMBER	Ar/Ma.03.03	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,253
UTM EASTING	425436	LATITUDE	40° 37.232'
UTM NORTHING	4497264	LONGITUDE	44° 08.461'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This isolated burial is located 2.89 km northwest (bearing 282°) of Hnaberd Fortress (map quadrant B2n).

TOPOGRAPHY

The burial is set on the crest of a gentle rise, a terminal spur of Mount Aragats overlooking the plain.

GENERAL DESCRIPTION

The burial is a spiral cromlech composed of three encircling rings. The building stones of the rings (basalt) appear to diminish in size from the outer to inner circles. No capstones are visible, only the small blocks of the inner spiral.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

ISOLATED BURIAL 2

PLACE NUMBER	Ar/Ma.49.03	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,504
UTM EASTING	425823	LATITUDE	40° 35.925'
UTM NORTHING	4494587	LONGITUDE	44° 07.398'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This burial is located in the same vicinity as Mantash Corrals 2 and 7, 3.22 km southwest (bearing 229°) of Hnaberd Fortress (map quadrant B2b).

TOPOGRAPHY

This burial rests on the gentle slope of a plateau on a shoulder of Mount Aragats.

GENERAL DESCRIPTION

The burial is a standard cromlech, 3 m in diameter.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

ISOLATED BURIAL 3

PLACE NUMBER	Ar/Ma.12.02	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,293
UTM EASTING	425743	LATITUDE	40° 37.066'
UTM NORTHING	4496730	LONGITUDE	44° 07.327'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This isolated burial is 2.53 km west (bearing 272°) of Hnaberd Fortress (map quadrant B2j).

TOPOGRAPHY

The burial was constructed on the northern slope of a gentle rise overlooking the southern extent of the Tsaghkahovit Plain.

GENERAL DESCRIPTION

This is a disturbed budding-style cromlech burial with clearly visible capstones of the central chamber askew, while that of the smaller adjacent chamber appears to be in place.

ASSOCIATED FEATURES AND MATERIALS

Despite the disturbance (which likely was not recent), there were no surface materials visible.

MANTASH QUADRANT (*cont.*)*ISOLATED BURIAL 4*

PLACE NUMBER	Ar/Ma.17.01	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,306
UTM EASTING	427464	LATITUDE	40° 36.869'
UTM NORTHING	4496315	LONGITUDE	44° 08.550'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This isolated cromlech rests in the shadow of Hnaberd Fortress, only 0.88 km to the northeast (bearing 66°) (map quadrant B2l).

TOPOGRAPHY

This cromlech was built on a broad, undulating plateau below Hnaberd Fortress.

GENERAL DESCRIPTION

This standard cromlech, 7 m in diameter, appears to have been disturbed. But while several blocks of the southern arc of the outer ring are missing, the capstones appear to be largely in place.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

ISOLATED BURIAL 5

PLACE NUMBER	Ar/Ma.27.04	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,388
UTM EASTING	425188	LATITUDE	40° 36.542'
UTM NORTHING	4495734	LONGITUDE	44° 06.940'
PERIODIZATION	Middle Bronze/Late Bronze		

ASSOCIATION

This kurgan is located 3.22 km west (bearing 253°) of Hnaberd Fortress on the west bank of a natural stream opposite Mantash Canals 15 and 6 (map quadrant B2e).

TOPOGRAPHY

Positioned along a natural stream, the kurgan was built on a plateau that slopes gently down to the north, atop a large outcrop of bedrock.

GENERAL DESCRIPTION

The kurgan is not particularly large, measuring only 7.1 m in diameter × 20 cm in height above the surrounding ground surface. The mound appears to be constructed of a low earthen mound covered with an outer layer of small tuff and basalt cobbles. The size of the kurgan suggests assignment to the Late Bronze Age, but the lack of a visible structural cromlech could argue for an earlier date in the Middle Bronze Age.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

ISOLATED BURIAL 7

PLACE NUMBER	Ar/Ma.27.06	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,397
UTM EASTING	425630	LATITUDE	40° 36.529'
UTM NORTHING	4495706	LONGITUDE	44° 07.254'
PERIODIZATION	Middle Bronze/Iron I		

ASSOCIATION

Located 2.81 km west (bearing 260°) of Hnaberd Fortress, this isolated cromlech is just east of Mantash Canal 6 (map quadrant B2f).

TOPOGRAPHY

The burial is located on a plateau, east of a natural watercourse.

GENERAL DESCRIPTION

The cromlech appears to have been looted relatively recently, as the interior stone chamber is visible amid a thick growth of weeds. The diameter of the circle appears to have been approximately 1.70 m with an interior stone-lined chamber measuring 1.20 × 1.37 m.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

ISOLATED BURIAL 8

PLACE NUMBER	Ar/Ma.27.07	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,385
UTM EASTING	425986	LATITUDE	40° 36.503'
UTM NORTHING	4495654	LONGITUDE	44° 07.507'
PERIODIZATION	Middle Bronze/Iron I		

ASSOCIATION

Manash Isolated Burial 8 is a single cromlech located 2.49 km southwest (bearing 246°) of Hnaberd Fortress (map quadrant B2f).

TOPOGRAPHY

The burial is set on a gentle north-facing hill slope.

GENERAL DESCRIPTION

The burial is a spiral cromlech, 4.0 m in diameter north–south × 4.5 m east–west. The medium basalt construction stones swirl in three concentric rings into the center, where a central capstone rises about 20 cm above the ground surface.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

MANTASH QUADRANT (*cont.*)*ISOLATED BURIAL 9*

PLACE NUMBER	Ar/Ma.28.02	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,366
UTM EASTING	427234	LATITUDE	40° 36.490'
UTM NORTHING	4495615	LONGITUDE	44° 08.391'
PERIODIZATION	Iron III		

ASSOCIATION

Located 1.48 km southwest (bearing 225°) of Hnaberd Fortress, Manash Isolated Burial 9 is the only isolated cist burial recorded on the survey (map quadrant B2g).

TOPOGRAPHY

The burial was constructed atop a tall hill overlooking a river valley to the east.

GENERAL DESCRIPTION

The burial is a highly discrete rectangle of small cobbles surrounding a larger basalt block. The construction is 1.82 m north–south × 2.08 m east–west.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

TSAGHKAHOVIT QUADRANT

ISOLATED BURIAL 1

PLACE NUMBER	Ar/Ts.155.03	ILLUSTRATION	Pls. 19, 79d
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,140
UTM EASTING	437093	LATITUDE	40° 38.082'
UTM NORTHING	4498473	LONGITUDE	44° 15.367'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This isolated burial was found 0.24 km northwest (bearing 312°) of Tsaghkahovit Burial Cluster 46 and 1.30 km southwest (bearing 253°) of Korbulag village (map quadrant C5a).

TOPOGRAPHY

The tomb is located atop a winding north–south-oriented ridge punctuated by exposed bedrock.

GENERAL DESCRIPTION

This isolated burial (pl. 79d) appears to have been robbed relatively recently. The construction is defined by three circumferential rings of medium, shaped basalt and occasionally tuff blocks surrounding a slightly raised earthen mound. There are no signs of slabs that might have surrounded a cist, suggesting that the burial chamber was a pit. A single large tuff capstone now lies at the bottom of the looted chamber. The chamber is 0.6 m deep × 2.3 m long × 1.8 m wide, oriented roughly north–south. Overall, the construction is 6.2 m in diameter east–west × 5.2 m north–south.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

ISOLATED BURIAL 2

PLACE NUMBER	Ar/Ts.173.02	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,044
UTM EASTING	436569	LATITUDE	40° 38.496'
UTM NORTHING	4499243	LONGITUDE	44° 14.990'
PERIODIZATION	Late Bronze/Iron I		

ASSOCIATION

This isolated cromlech is located on a small rise on the edge of the Tsaghkahovit Plain, just 0.12 km due east of the Sangyar road (map quadrant C5a).

TOPOGRAPHY

The rise on which this burial is situated is either the terminus of Mount Aragats or a distinct rise on the southern edge of the Tsaghkahovit Plain. The slope is gentle and the hill as a whole is highly eroded.

GENERAL DESCRIPTION

A single spiral cromlech, this burial is 8 m in diameter and built of large, worked basalt blocks set in a series of concentric, spiraling rings. At the center, only one large stone is visible while much of the rest of the burial is submerged. This is an excellent example of the spiral style.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

RESERVOIRS

APARAN QUADRANT

RESERVOIR 1

PLACE NUMBER	Ar/Ap.02.01	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,192
UTM EASTING	438913	LATITUDE	40° 37.930'
UTM NORTHING	4498176	LONGITUDE	44° 16.660'
PERIODIZATION	N/A		

ASSOCIATION

Located just east of Aparan Stela 1 (map quadrant B5o), 0.5 kilometer south of Korbulag village, and 0.28 km northwest of Shenkani Bog.

TOPOGRAPHY

The reservoir rests in a low basin flanked to the east and west by two small hills of highly eroded bedrock. No clearly defined stream or canal leads into the basin, suggesting that the basin lies near the bottom of a trough that drains the snowmelt from the northeastern slopes of Mount Aragats.

GENERAL DESCRIPTION

This reservoir is quite large, extending approximately 200 m north–south even in late July. The surrounding vegetation suggests it swells to a substantially larger size during the spring when the combination of rain and snowmelt sends considerable quantities of water down the Pambak foothills.

ASSOCIATED FEATURES AND MATERIALS

On a small bedrock outcrop to the west are several recently built circles of stones that until recently appear to have served as corrals for livestock convenient to the water in the reservoir. It is unclear from surface inspection

APARAN QUADRANT (*cont.*)

whether the reservoir is simply a natural feature or has been “improved” at some point in the past. No surface materials were found around the reservoir itself.

RESERVOIR 2

PLACE NUMBER	Ar/Ap.05.04	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,203
UTM EASTING	439622	LATITUDE	40° 37.910′
UTM NORTHING	4498134	LONGITUDE	44° 17.163′
PERIODIZATION	N/A		

ASSOCIATION

0.9 km southeast of Korbulag village and 0.44 km east of Shenkani Bog (map quadrant B5p).

TOPOGRAPHY

Like Aparan Reservoir 1, this reservoir is located in a natural depression surrounded on all sides by low bedrock outcrops.

GENERAL DESCRIPTION

This reservoir is smaller than Aparan Reservoir 1, extending approximately 100 m north–south. But like Reservoir 1, the surrounding vegetation suggests it is substantially larger in size during the spring when the combination of rain and snowmelt sends considerable quantities of water down the mountain.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

RESERVOIR 3

PLACE NUMBER	Ar/Ap.22.01	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,249
UTM EASTING	438700	LATITUDE	40° 37.450′
UTM NORTHING	4497288	LONGITUDE	44° 16.513′
PERIODIZATION	N/A		

ASSOCIATION

This possible reservoir is located 1.97 km northeast of Nigavan village and 0.65 km southwest of Aparan Canal 1 (map quadrant B5o).

TOPOGRAPHY

Several low hills surround this small basin.

GENERAL DESCRIPTION

It is unclear if this circular area of standing water represents a human-made reservoir or simply a natural collecting basin. No evidence of built features or canals was found around the feature’s banks. Even if it is a natural collecting point, it may have been integrated into the larger water management systems on the slopes of Mount Aragats.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

GEGHAROT QUADRANT

RESERVOIR 1

PLACE NUMBER	Ar/Ge.18.01	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,159
UTM EASTING	435390	LATITUDE	40° 42.896'
UTM NORTHING	4507392	LONGITUDE	44° 14.104'
PERIODIZATION	N/A		

ASSOCIATION

The only reservoir recorded in the Gegharot survey quadrant is located at the foot of the Pambak range, 1.31 km northeast of Gegharot Fortress (map quadrant E4h).

TOPOGRAPHY

The reservoir lies below Ashot-Yerkat Fortress, effectively positioned to collect the runoff from the severe slopes of the surrounding Pambak range.

GENERAL DESCRIPTION

The reservoir appears to be fed in large part by mountain runoff during the spring. By the time we visited the site in late July, there was little water in the reservoir.

ASSOCIATED FEATURES AND MATERIALS

No surface materials were found, but it is worth noting the large metal pipe that seems to canalize the spring runoff, directing it into the reservoir. It is possible that the reservoir is relatively modern, built at the same time as the pipe was installed. But it looks instead as if the pipe merely took advantage of an existing reservoir as the endpoint for water collected on the upper slopes.

HNABERD QUADRANT

RESERVOIR 1

PLACE NUMBER	Ar/Hn.360.02	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,237
UTM EASTING	428566	LATITUDE	40° 37.224'
UTM NORTHING	4496963	LONGITUDE	44° 09.319'
PERIODIZATION	N/A		

ASSOCIATION

This reservoir is located 1.3 km southeast (bearing 133°) of Hnaberd village on the road to Hnaberd Fortress (map quadrant B3i).

TOPOGRAPHY

The reservoir is set on the northern edge of a broad plateau that slopes gently from the foot of Hnaberd Fortress to the Tsaghkahovit Plain below.

GENERAL DESCRIPTION

The reservoir is 75 m in diameter but the water level appears to fluctuate considerably with the seasons. In 1998, this reservoir appeared to have been part of a water supply system for Hnaberd village that included a second reservoir to the south, below the southeastern corner of Hnaberd Fortress. However, this upper reservoir subsequently broke and as of 2006 was no longer in existence (see Hnaberd Burial Cluster 4).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

KOLGAT QUADRANT

RESERVOIR 1

PLACE NUMBER	Ar/Ko.21.02	ILLUSTRATION	Pl. 20
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,336
UTM EASTING	424582	LATITUDE	40° 42.082'
UTM NORTHING	4505990	LONGITUDE	44° 06.437'
PERIODIZATION	N/A		

ASSOCIATION

Still in use today, Kolgat Reservoir 1 is located 0.91 km northwest (bearing 339°) of Kolgat Settlement 1 and 0.54 km southeast (bearing 159°) of Kolgat Reservoir 2 (map quadrant D2m). Given the orientations of Kolgat Canals 2 and 3, it is possible that these were at one time part of a single irrigation system, suggesting the waters of this reservoir tended to flow west to the Shirak Plain rather than east into the Tsaghkahovit Plain.

TOPOGRAPHY

Several natural watercourses lead into this reservoir set in a low-lying depression at the base of a large hill. During a visit in July of 2000 the reservoir retained considerable quantities of water.

GENERAL DESCRIPTION

The reservoir itself is quite large, with its extent varying seasonally. At the time of our visit it was approximately 250 m across. Several small channels lead away from the reservoir into the neighboring agricultural fields. To the northwest are several other small depressions — apparently abandoned — which may have once been part of a larger water management system.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

RESERVOIR 2

PLACE NUMBER	Ar/Ko.31.01	ILLUSTRATION	Pl. 20
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,330
UTM EASTING	424389	LATITUDE	40° 42.349'
UTM NORTHING	4506486	LONGITUDE	44° 06.296'
PERIODIZATION	N/A		

ASSOCIATION

Located 1.33 km northwest (bearing 308°) of Kolgat Settlement 1, Reservoir 2 is part of a single water management system along with Kolgat Reservoir 3 and Kolgat Canal 4 (map quadrant E2a).

TOPOGRAPHY

Set in a valley, this reservoir is fed by a few natural watercourses descending the northern flank of Kolgat. Still in use today, it appears to water fields just to the north beyond the northern survey boundary.

GENERAL DESCRIPTION

The diameter of this reservoir is approximately 100 m.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

RESERVOIR 3

PLACE NUMBER	Ar/Ko.34.01	ILLUSTRATION	Pl. 20
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,324
UTM EASTING	424422	LATITUDE	40° 42.420'
UTM NORTHING	4506618	LONGITUDE	44° 06.318'
PERIODIZATION	N/A		

ASSOCIATION

Kolgat Reservoir 3 is located 0.13 km northeast (bearing 14°) of Reservoir 2. The two reservoirs are connected by a short canal (Kolgat Canal 4).

TOPOGRAPHY

Although set in a broad valley between two low ridges, this reservoir was dry during the month of July when we visited. Given that several other reservoirs in the survey quadrant retained water, it is possible that either it was constructed atop a geological matrix with poorer water retention qualities or it was drained at the beginning of the dry season, prior to tapping the water in Kolgat Reservoir 2.

GENERAL DESCRIPTION

This dry reservoir features a dam on its western edge and an exit channel that leads to the west and the agricultural fields immediately below. The reservoir is constructed of a circumscribing earthen berm that appears to be quite recent in its construction.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

RESERVOIR 4

PLACE NUMBER	Ar/Ko.33.04	ILLUSTRATION	Pl. 20
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,272
UTM EASTING	426511	LATITUDE	N40°
UTM NORTHING	4506578	LONGITUDE	44° 07.802'
PERIODIZATION	N/A		

ASSOCIATION

This small reservoir is located 4.2 km southwest (bearing 197°) of Lernapar Fortress (map quadrant E2c).

TOPOGRAPHY

Set on the northeast flank of Mount Kolgat, this still-active reservoir sits in a shallow depression that creates a natural drainage basin.

GENERAL DESCRIPTION

Kolgat Reservoir 4 is still in use and appears to be rather recently modified. A dam on the eastern bank made of earth and stone regulates flow out to the fields on the plain just below.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

MANTASH QUADRANT

RESERVOIR 1

PLACE NUMBER	Ar/Ma.24.04	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,366
UTM EASTING	425369	LATITUDE	40° 36.689'
UTM NORTHING	4496044	LONGITUDE	44° 07.067'
PERIODIZATION	N/A		

ASSOCIATION

Mantash Reservoir 1 is located 2.97 km southwest (bearing 258°) of Hnaberd Fortress (map quadrant B2f).

TOPOGRAPHY

The reservoir is located on a gently sloping shoulder of Mount Aragats, adjacent to a small, briskly flowing watercourse which proceeds downward toward Hnaberd village.

GENERAL DESCRIPTION

Mantash Reservoir 1 is a medium-sized circular depression approximately 40 m in diameter. Flow out of the reservoir is regulated by a dam on its northwestern edge.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Feature 1: Just 5 m to the west of the dam is an unusual linear feature consisting of seventeen worked basalt blocks. One stone is large and unshaped and may be the bedrock keystone to which this feature was anchored. The well-carpentered line is oriented roughly north–south (bearing 10°), suggesting it may have served as part of the outlet channel. However, it is not clearly articulated with the dam so it is possibly unrelated.

RESERVOIR 2

PLACE NUMBER	Ar/Ma.10.02	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,249
UTM EASTING	423837	LATITUDE	40° 37.255'
UTM NORTHING	4497070	LONGITUDE	44° 05.973'
PERIODIZATION	Medieval or Modern(?)		

ASSOCIATION

Located 4.18 km southeast (bearing 116°) of Mets Mantash village, this isolated reservoir does not have a clear association with any canals (although Mantash Canals 14 and 11 head in its general direction) (map quadrant B11).

TOPOGRAPHY

The reservoir was constructed on a gentle slope, just above a series of agricultural fields that mark the termination of Mount Aragats and the beginning of Tsaghkahovit Plain cultivation.

GENERAL DESCRIPTION

Surrounded by agricultural fields, this reservoir includes a stone dam on a natural feeder channel at its northern end. Moderately steep slopes border the reservoir to the west and east.

ASSOCIATED FEATURES AND MATERIALS

No surface materials. Although the dam and reservoir remain in use today, the use of stone rather than concrete suggests its construction likely predates the Soviet period.

RESERVOIR 3

PLACE NUMBER	Ar/Ma.28.04	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,370
UTM EASTING	423664	LATITUDE	40° 36.535'
UTM NORTHING	4495763	LONGITUDE	44° 05.658'
PERIODIZATION	Medieval or Modern(?)		

ASSOCIATION

Located 4.82 km southeast (bearing 130°) of Mantash village, Mantash Reservoir 3 is most clearly associated with Mantash Canal 7 to the east (map quadrant B1h).

TOPOGRAPHY

The reservoir is set in a natural depression, in the center of a broader plateau on a terminal spur of Mount Aragats.

GENERAL DESCRIPTION

Located in a broad depression above the plain, this circular reservoir is fed by natural streams. A dam installed at the southern end measures 18 m in length × 3 m in depth. Toward the bottom of the dam, the rectangular shape of basalt building blocks can be seen. The regularity of the blocks suggests construction in the later medieval period, but it could be early modern as well (pre-Soviet).

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

RESERVOIR 4

PLACE NUMBER	Ar/Ma.41.04	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,438
UTM EASTING	422893	LATITUDE	40° 36.087'
UTM NORTHING	4494915	LONGITUDE	44° 05.318'
PERIODIZATION	Modern		

ASSOCIATION

Located 4.73 km southeast (bearing 150°) of Mantash village, Mantash Reservoir 4 appears to be fed by both natural mountain streams as well as Mantash Canals 9 and 10 (map quadrant B1c).

TOPOGRAPHY

The reservoir sits on a large gravelly surface nestled in a small depression surrounded by low ridges.

GENERAL DESCRIPTION

A stream cuts through this rectangular reservoir from south to west. To the north is a steep drop in elevation and an excavated channel filled with boulders. The reservoir is approximately 30 m north–south × 61 m east–west.

ASSOCIATED FEATURES AND MATERIALS

No surface materials, but recent building activity indicates modern construction at the site. This, of course, does not preclude use in earlier periods.

TSAGHKAHOVIT QUADRANT

RESERVOIR 1

PLACE NUMBER	Ar/Ts.016.07	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,222
UTM EASTING	435476	LATITUDE	40° 37.483'
UTM NORTHING	4497397	LONGITUDE	44° 14.233'
PERIODIZATION	N/A		

ASSOCIATION

Tsaghkahovit Reservoir 1 is located 1.35 km above (bearing 160°) Tsaghkahovit Fortress. Together with Tsaghkahovit Reservoir 2, 0.45 km to the south, and Tsaghkahovit Canals 1 and 2, it forms the primary water collection and distribution system for the modern village of Tsaghkahovit (map quadrant B4p).

TOPOGRAPHY

The reservoir rests at the bottom of a basin surrounded by tall rock outcrops on all sides except the southeast, where Tsaghkahovit Canal 1 draws water out of the reservoir to join Tsaghkahovit Canal 2.

GENERAL DESCRIPTION

The reservoir is 114 m north–south × 112 m east–west. The outlet on the southeast side is regulated by a small, stone check dam.

ASSOCIATED FEATURES AND MATERIALS

No surface materials allow us to date the reservoir. It is currently in use; however, it is unclear if it was part of a more ancient fluvial system. It is important to point out that the natural watercourses that drain the north slope of Mount Aragats do not terminate in the vicinity of Tsaghkahovit Fortress, suggesting the site would have had the same difficulties securing a water supply as the modern inhabitants of the village. Tsaghkahovit Reservoirs 1 and 2 provide a convenient location for water storage that can be easily channeled along the west side of Tsaghkahovit lower town.

RESERVOIR 2

PLACE NUMBER	Ar/Ts.016.08	ILLUSTRATION	Pls. 16, 71a
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,224
UTM EASTING	435542	LATITUDE	40° 37.248'
UTM NORTHING	4496943	LONGITUDE	44° 14.275'
PERIODIZATION	N/A		

ASSOCIATION

This reservoir (pl. 71a) is located just 0.45 km south of Tsaghkahovit Reservoir 1 and 1.72 km south (bearing 163°) of Tsaghkahovit Fortress (map quadrant B4l).

TOPOGRAPHY

Unlike Tsaghkahovit Reservoir 1, which is nestled in one end of an elongated basin, Reservoir 2 occupies the entirety of a large circular depression surrounded on all sides by bedrock outcrops except for a small notch on the northern end that allows the reservoir to be tapped.

GENERAL DESCRIPTION

Tsaghkahovit Reservoir 2 is substantially larger than Tsaghkahovit Reservoir 1 and more formal in its construction. Measuring 211 m east–west × 145 m north–south, Reservoir 2 appears to be substantially deeper

than Reservoir 1. It also boasts a concrete, rather than stone, dam at its northern end which regulates flow into Tsaghkahovit Canal 2.

ASSOCIATED FEATURES AND MATERIALS

No surface materials. See discussion of dating problems in the entry for Tsaghkahovit Reservoir 1.

SETTLEMENTS⁶¹

GEGHAROT QUADRANT

SETTLEMENT 1

PLACE NUMBER	Ar/Ge.08.00	ILLUSTRATION	Pl. 24
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,127
UTM EASTING	434928	LATITUDE	40° 42.444'
UTM NORTHING	4506560	LONGITUDE	44° 13.780'
PERIODIZATION	Medieval		

ASSOCIATION

Gegharot Settlement 1 is located just below the eastern flank of Gegharot Fortress (0.42 km, bearing 63°) (map quadrant E4c).

TOPOGRAPHY

This small settlement is set on the eastern edge of the Pambak spur that hosts Gegharot Fortress at its summit. The terrain slopes gently down from west to east gradually joining with the actively worked fields just below.

GENERAL DESCRIPTION

Gegharot Settlement 1 appears from the surface to be quite well preserved. The remains of the settlement hug the eastern base of the Gegharot spur of the Pambak range. This may be due to the amelioration of the parts of the settlement that once sat atop modern fields. Nevertheless, a large segment of the settlement is still preserved. The visible architecture extends 530 m along the northeast/southwest-bearing contour of the spur. At its maximum, the visible architecture extends 190 m east–west. A second, diamond-shaped eastern part of the settlement, divided from the main body by a dirt track, is 176 m east–west × 258 m north–south. Room blocks are still visible from the surface in both portions, but are generally better preserved in the smaller eastern section.

ASSOCIATED FEATURES AND MATERIALS

No surface materials were found either in the surviving portion of the settlement or in the adjacent fields. We date the site instead on the basis of the visible architecture and the organization of the site revealed in the aerial photos. The intensely rectilinear design of the buildings and masonry suggest contemporaneity with the medieval settlement below Sahakaberd. Intriguingly, a curving line near the center of the eastern section of the settlement suggests a road through the densely packed residential structures. A structure on the site today continues to be used for informal picnics.

⁶¹ Note that the settlements at Hnaberd and Tsaghkahovit lower town are included in the descriptions of their respective associated fortress since these settlements appear to have been built in concert with constructions on the citadels.

HNABERD QUADRANT

SETTLEMENT 1

PLACE NUMBER	Ar/Hn.375.01	ILLUSTRATION	Pls. 15, 71c
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,330
UTM EASTING	429025	LATITUDE	40° 37.126'
UTM NORTHING	4496776	LONGITUDE	44° 09.654'
PERIODIZATION	Modern		

ASSOCIATION

This block of rooms is located 0.60 km southwest (bearing 237°) of Gekhadzor village and 0.55 km east (bearing 96°) of Hnaberd Isolated Architecture 2, which may be contemporaneous (map quadrant B3i).

TOPOGRAPHY

This small settlement lies along a watercourse near the margin of the Tsaghkahovit Plain. The natural drainage appears to have been canalized in some areas, with basalt stones lining part of its course (pl. 71c). The visible room blocks lie on the terminal slope of Mount Aragats, while agricultural fields mark the settlement's northern boundary. The area shows considerable signs of disturbance. Indeed, much more of the settlement is visible in the 1989 aerial photograph than was extant during our visit in 1998.

GENERAL DESCRIPTION

The settlement extends across an area 153 m north–south × 149 m east–west. It presently includes at least six distinct room blocks, but the aerial photos suggest that the site may have once included more than twenty discrete buildings. The walls suggest two architectural phases. The upper courses of stones appear to have been recent additions, employing modern cut stones set in regular lines. But the lower courses appear to utilize double-faced basalt masonry. If the modern layers date to the late nineteenth and early twentieth century, it is possible that the lower, original constructions, date to the medieval period.

ASSOCIATED FEATURES AND MATERIALS

No surface materials were recovered from the site. However, a shepherd in the vicinity said the place was once occupied by Turkish residents. This is not surprising given the well-attested Turkish toponyms in the region (such as Haji Khalil, the early twentieth-century name given to Tsaghkahovit Fortress by Toramanyan). This would set the abandonment of the village sometime during the violence that accompanied World War I and the Armenian Genocide during the second decade of the twentieth century.

KOLGAT QUADRANT

SETTLEMENT 1

PLACE NUMBER	Ar/Ko.15.03	ILLUSTRATION	Pl. 20
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,345
UTM EASTING	425433	LATITUDE	40°
UTM NORTHING	4505668	LONGITUDE	44° 07.043'
PERIODIZATION	Medieval/Modern		

ASSOCIATION

Kolgat Settlement 1 is located 5.51 km southwest (bearing 205°) of Lernapar Fortress and 0.91 km southeast (bearing 111°) of Kolgat Reservoir 1 (map quadrant D2n).

TOPOGRAPHY

The settlement is located atop a terrace on the eastern slope of Mount Kolgat's small northern secondary peak. The terrace itself is flat and broad but slopes steeply down to the east and up to the west.

GENERAL DESCRIPTION

Kolgat Settlement 1 is a complex of more than fifteen room blocks built of medium basalt and tuff blocks. The stones have worked faces set into irregular courses. The walls are double faced with an interior rubble core and some still rise up to 50 cm above the surface. The masonry appears to be dry, with no evidence of mortar. The rooms are rectilinear with right-angled corners and well-carpentered lines. On the southern end of the settlement the room blocks are distinct but closely packed. On the northern end of the settlement the buildings are more widely spaced. Overall, the complex is arranged laterally along the terrace, extending 350 m north–south and a maximum of 50 m east–west. While the buildings range in size from 6.5 to 30.0 m on a side, most of the rooms are approximately 4 × 6 m in size. Several segments of a circumscribing wall are visible at points around the settlement; however, this appears more likely to be a terrace wall than a fortification, as only an exterior face is visible.

ASSOCIATED FEATURES AND MATERIALS

No surface materials, but the preservation of the architecture suggests it dates to the medieval period or later.

SETTLEMENT 2

PLACE NUMBER	Ar/Ko.08.02	ILLUSTRATION	Pl. 20
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,344
UTM EASTING	426236	LATITUDE	40°
UTM NORTHING	4505314	LONGITUDE	44° 07.617'
PERIODIZATION	Modern		

ASSOCIATION

Kolgat Settlement 2 is located 0.88 km southeast (bearing 114°) of Kolgat Settlement 1 and on a ridge just above Kolgat Canal 1 (map quadrant D2n).

TOPOGRAPHY

This small group of rooms is set atop an extended ridge with extensive exposures of denuded, weathered bedrock.

GENERAL DESCRIPTION

Although we have labeled these structures a settlement, they are more resistant to classification than most such constructions. The place consists of a single line of three horseshoe-shaped enclosures with openings on the western ends. The two flanking constructions are roughly 2.0 m north–south × 0.6 m east–west while the center building is 3.5 m north–south × 1.0 m east–west. The walls are built of basalt and tuff double-faced dry stone masonry and remain preserved to a height of over 1 m in places. In terms of overall form, these constructions more closely resemble corrals. However, no other corrals documented by our survey consisted of interlocking rooms. As a result, we have classified this as a settlement, but this should be regarded as solely provisional.

ASSOCIATED FEATURES AND MATERIALS

No surface materials were recovered, but the preservation of simple dry stone masonry walls to a height of 1 m suggests these are most likely recent constructions.

MANTASH QUADRANT

SETTLEMENT 1

PLACE NUMBER	Ar/Ma.56.01	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,590
UTM EASTING	423861	LATITUDE	44° 06.009'
UTM NORTHING	4494391	LONGITUDE	44° 07.043'
PERIODIZATION	Modern		

ASSOCIATION

This remote upland settlement is located 4.97 km southeast (bearing 243°) of Hnaberd Fortress and 5.80 km southwest of Mets Mantash village (map quadrant B1d).

TOPOGRAPHY

Mantash Settlement 1 is located on a triangular promontory extending roughly north–south with small watercourses descending the mountain on both the east and west flanks. The settlement appears to have been concentrated on the western side of the promontory.

GENERAL DESCRIPTION

This settlement consists of several distinct features. The most prominent of these is a cluster of well-preserved rectilinear rooms. Five rooms are built as a single integrated L-shaped block. Two additional rooms on the western side of the settlement are visible as freestanding constructions. Northwest of the freestanding rooms, several large curvilinear features are visible that appear to be corrals. The architecture is very well preserved (in places, walls survive to heights of 1.0–1.5 m), constructed of medium tuff and basalt blocks, double faced and set into courses. The rooms are regular in their dimensions, generally 9.5 × 5.0 m square. In the corrals, this well-carpentered architecture gives way to smaller, unshaped blocks piled into a single line of stones averaging 3 m in thickness.

ASSOCIATED FEATURES AND MATERIALS

Intensive surface survey on the promontory recorded two areas of high material densities — one just 15 m northeast of the room block and one small area on the east side of the promontory. Beyond these patches, no surface materials were recovered, including within the rooms themselves. Surface materials included small pieces of ceramics and obsidian. The ceramic remains appeared to have been repeatedly trampled, as none of the pieces were large enough to support a temporal identification. Two obsidian tools were recovered: a midsection of a broken blade and a tanged arrowhead. Neither object, unfortunately, provides a strong basis for defining a period of occupation for Mantash Settlement 1. The preservation of the architecture suggests that the rooms themselves may be quite recent (nineteenth–early twentieth century). It is possible that during construction one of the burials from the adjacent Mantash Burial Cluster 21 was disturbed, bringing the obsidian artifacts to the surface.

NIGAVAN QUADRANT

SETTLEMENT 1

PLACE NUMBER	Ar/Ap.00.01	ILLUSTRATION	—
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,082
UTM EASTING	441335	LATITUDE	40° 38.10'
UTM NORTHING	4498462	LONGITUDE	44° 18.38'
PERIODIZATION	N/A		

ASSOCIATION

Located adjacent to Nigavan Bog, Nigavan Settlement 1 is 1.90 km northeast (bearing 10°) of the modern village of Nigavan, 1.5 km west of the main Yerevan–Vanadzor road (M3).

TOPOGRAPHY

The site is set atop a small rise, below a terminal northeastern spur of Mount Aragats. Below the north slope is Nigavan Bog, a large marshy area that is more precisely described as a lake in the process of transforming into a bog (L. Popova, pers. comm.).

GENERAL DESCRIPTION

The settlement consists of agglutinative blocks encompassing at least seventeen discrete rooms built of faced basalt and tuff blocks. Architecturally, it closely resembles the Iron III period lower town at Tsaghkahovit.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

SAHAKABERD QUADRANT

SETTLEMENT 1

PLACE NUMBER	Ar/Sk.311.05	ILLUSTRATION	Pls. 15, 70c
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,242
UTM EASTING	431073	LATITUDE	40° 37.355'
UTM NORTHING	4497182	LONGITUDE	44° 11.103'
PERIODIZATION	Medieval		

ASSOCIATION

This large settlement (pl. 70c) is located 0.54 km north of Sahakaberd Fortress, 0.80 km southeast of Gekhadzor village along the eastern road (map quadrant B3k/o).

TOPOGRAPHY

Sahakaberd Settlement 1 sits atop a broad alluvial fan where three major mountain drainages spill onto the flatland of the Tsaghkahovit Plain. The settlement has been encroached upon on the west by several agricultural fields and on the east by construction activities related to the adjacent military base. The latter work appears to have had a particularly devastating impact on the eastern flank of the site. The central area of the settlement appears to be in better, but precarious, condition. Some evidence of small pits was found and the standing architecture was much reduced between our initial recording of the site in 1998 and a subsequent follow-up visit in 2004. A narrow vehicle path runs east–west across the site.

GENERAL DESCRIPTION

With an estimated area of 30 ha, Sahakaberd Settlement 1 is the third largest archaeological settlement in the Tsaghkahovit Plain, behind Tsaghkahovit and Hnaberd fortresses, respectively. This now-abandoned village appears to have been built around freestanding buildings set irregularly along winding pathways (not much different from modern Gekhadzor or Hnaberd just to the west). The individual buildings range widely in size and appear to include as few as two and as many as eight distinct rooms. The walls in some places do stand above the ground surface, indicating construction using medium to large, worked basalt and tuff blocks set in irregular, yet clearly definable courses. The exterior faces of the walls surround a core of dry rubble with no evidence of mortar. There were also no signs of other architectural devices for securing the walls, such as metal clamps.

ASSOCIATED FEATURES AND MATERIALS

Despite the size of the site and the evidence for some disturbance in the area, there were very few surface materials recovered from Sahakaberd Settlement 1. A small collection of twenty-six ceramics collected by intensive (5 m interval) transect walking across the site, along with the condition and style of masonry, suggests that the primary occupation dates to the medieval period. However, the materials were highly eroded and only six sherds proved to be diagnostic. Thus, a more refined chronology must await excavations.

SAHAKABERD QUADRANT (*cont.*)

SETTLEMENT 2

PLACE NUMBER	Ar/Sk.330.07	ILLUSTRATION	Pl. 15
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,395
UTM EASTING	430875	LATITUDE	40° 36.743'
UTM NORTHING	4496064	LONGITUDE	44° 10.958'
PERIODIZATION	Medieval		

ASSOCIATION

This small block of rooms was encountered 0.52 km southwest (bearing 218°) of Sahakaberd Fortress (map quadrant B3g).

TOPOGRAPHY

The rooms are set in a small basin surrounded on three sides by low hills. The hill to the northeast has been dramatically transformed by recent constructions associated with a military base. Similarly, the ridges that protect the northwest and southeast now also host foxholes and other recent constructions. However, the area of Sahakaberd Settlement 2 does not appear to have been significantly disturbed.

GENERAL DESCRIPTION

The eight rooms and associated architecture that make up this small settlement occupy an area of approximately 60 × 67 m. The main complex includes two large rooms on the northwest (one 32 × 27 m, the other a more irregular 40 × 19 m). Although none of the architecture survives above the ground surface, the walls appear to be double faced in parts, constructed of medium, worked basalt blocks. Attached to these rooms are three to four smaller rooms covering an area approximately 27 square m in area, but whose interior walls are largely submerged below the ground surface. These appear to be far more informal constructions utilizing a single line of basalt blocks. Detached from this agglutinative set of rooms, 23 m to the southeast, is an irregular curvilinear structure, possibly a corral, 15 m in diameter. This structure appears to have been built of cobbles amassed into berms. This set of features may well represent more recent military activity in the area. There may also have been several cromlechs in the area, but the considerable amount of debris from wall fall has obscured the terrain.

ASSOCIATED FEATURES AND MATERIALS

A small collection of six ceramic sherds was found within the area of the site. While not diagnostic to a particular period, within the ArAGATS group periodization system these materials were assigned to Group C, which extends from the Iron III through the medieval era. However, the condition of the architecture and the masonry suggest that a medieval date for the site is the most likely.

TSAGHKAHOVIT QUADRANT

SETTLEMENT 1

PLACE NUMBER	Ar/Ts.160.05	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,246
UTM EASTING	437576	LATITUDE	40° 38.223'
UTM NORTHING	4498730	LONGITUDE	44° 15.707'
PERIODIZATION	N/A		

ASSOCIATION

This small settlement is located 2.57 km east (bearing 89°) of Tsaghkahovit Fortress, just 0.91 km east of Tsaghkahovit Burial Cluster 61 (map quadrant C5b).

TOPOGRAPHY

The architecture that defines the perimeter of this settlement encircles a small basin between two low ridges.

GENERAL DESCRIPTION

It is not entirely clear that this site is in fact a settlement. It is marked by curvilinear walls around the edges of a small basin which enclose an area 250 m east–west × 200 m north–south. Only the tops of walls are visible from the surface. They appear to be constructed of single lines of medium, worked blocks. No complete rooms are visible; however, there are partially visible rectilinear features. Within the territory circumscribed by the walls are six standard cromlechs that are most likely extensions of Tsaghkahovit Burial Cluster 61.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

The associated cromlechs suggest that the settlement is not assignable to the Late Bronze/Iron I, but whether the cromlechs were built into a preexisting set of structures or the structures were later built around an area of cromlechs is unclear.

SETTLEMENT 2

PLACE NUMBER	Ar/Ts.281.01	ILLUSTRATION	Pl. 16
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,347
UTM EASTING	434833	LATITUDE	40° 36.840'
UTM NORTHING	4496193	LONGITUDE	44° 13.770'
PERIODIZATION	N/A		

ASSOCIATION

Tsaghkahovit Settlement 2 is located 2.36 km south (bearing 183°) of Tsaghkahovit Fortress and includes the southeastern limit of Tsaghkahovit Burial Cluster 91 (map quadrant B4g).

TOPOGRAPHY

Like Tsaghkahovit Burial Cluster 91, the architecture of Tsaghkahovit Settlement 2 extends across a broad, low plateau bracketed to the east and west by small watercourses that drain the slopes of Mount Aragats. The central area of the settlement, where the preservation appears to be the best, extends across three low outcrops and intervening swales. The northern and southern limits of the site — particularly within the swales — are scarred by recent cultivation activities that appear to have cleared some stones to make way for cultivation.

GENERAL DESCRIPTION

The center of this settlement is defined by a 630 m long curvilinear elliptical wall circumscribing an area of approximately 2.5 ha. The wall is double faced and built of shaped or lightly worked basalt blocks. In general, only the line of the wall is visible from the surface so the masonry is not clearly definable. No interior architecture is visible within the space outlined by the wall, but there does seem to be an opening on the southeastern edge.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

Although a number of cromlechs from Tsaghkahovit Burial Cluster 91 litter the area around the construction, none is visible within it, suggesting that such burials might have been cleared during the building of the wall (perhaps cromlech stones were re-used). This suggests that the settlement post-dates the surrounding Late Bronze/Iron I cromlechs. It is also possible, given the shape of the construction, that this is simply an extremely large corral, but this seems unlikely at present.

TSILKAR QUADRANT

SETTLEMENT 1

PLACE NUMBER	Ar/TI	ILLUSTRATION	Fig. 65; Pls. 24, 70d
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,222
UTM EASTING	433241	LATITUDE	40° 43.325'
UTM NORTHING	4508204	LONGITUDE	44° 12.573'
PERIODIZATION	Early Bronze, Iron III		

ASSOCIATION

Located at the northern edge of Tsilkar village, at the end of a dirt road that terminates at the intersection of two ravines, Tsilkar Settlement 1 (pl. 70d) lies near the western edge of the Gegharot survey quadrant (map quadrant E4f).

TOPOGRAPHY

Tsilkar Settlement 1 extends across several raised promontories, separated by a series of eroded gullies that terminate in a broadly cut ravine which today serves as a village road. On the eastern edge of the settlement are newly planted forests with trees set in deeply cut furrows. To the west and southwest are houses that mark the edge of the modern village.

GENERAL DESCRIPTION

Five gullies divide Tsilkar Settlement 1 into five distinct zones. Zone 1 lies on the western edge of the site, bound by a gully on the east, eroding bedrock from the Pambak lower flanks to the north, and the village to the south. Nothing hems in the zone to the west. Zone 2 is a triangular promontory bound on two sides by gullies and to the north by eroded bedrock. A steel pipe at the bottom of the eastern gully suggests the seasonal water flow has been partially canalized. Zones 3 and 4 are smaller triangular promontories, also defined by gullies. Zone 5 is a broad promontory cut by a gully in the north and a road cuts to the west and south. No surface architecture is visible within the settlement. To the east lies a newly planted forest.

ASSOCIATED FEATURES AND MATERIALS

Overall, materials densities were low to moderate (fig. 65).

Zone 1 included moderate densities of surface ceramics along the eastern gully edge that diminished rapidly moving west. Most significantly, it was in this zone that we recovered the largest proportion of Early Bronze sherds.

Zone 2 had the highest density of materials overall. Most of the diagnostic remains were assignable to the Iron III period (Groups J and R), contemporary with the lower town at Tsaghkahovit. Faint surface traces of linear walls were also visible, although none could be traced over more than 50 cm.

Zones 3 and 4 revealed no surface materials. The former is primarily denuded bedrock with very spotty remaining soil deposits. The latter appears to have been deeply impacted by the adjacent tree farm.

Zone 5 included the most robust architectural features, including a well-carpentered wall and corner segments visible along the road cut on the promontory's western edge. Very few surface materials were found, but most were assigned to the Iron III period.

STELAE

APARAN QUADRANT

STELA 1

PLACE NUMBER	Ar/Ap.05.01	ILLUSTRATION	Pl. 17
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,242
UTM EASTING	438546	LATITUDE	40° 37.922'
UTM NORTHING	4498165	LONGITUDE	44° 16.400'
PERIODIZATION	N/A		

ASSOCIATION

The stela is located 0.40 km south of Korbulag village and 0.36 km west of Aparan Reservoir 1 (map quadrant B5o).

TOPOGRAPHY

The stela was found in situ atop a low north–south-oriented ridge on a terminal northeast spur of Mount Aragats. The hill looks out across the Tsaghkahovit Plain and east to Aparan Reservoir 1.

GENERAL DESCRIPTION

The stela is a small block of roughly worked black basalt. The top is roughly 25 cm square and the block is 43 cm tall. It was found sunk into the ground and resting at an angle. The stela was surrounded by large outcrops of weathered bedrock on all sides. However, no other built features were visible.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

STELA 2

PLACE NUMBER	Ar/Ap.12.01	ILLUSTRATION	Pls. 17, 73e
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,213
UTM EASTING	439636	LATITUDE	40° 37.708'
UTM NORTHING	4497761	LONGITUDE	44° 17.174'
PERIODIZATION	N/A		

ASSOCIATION

Aparan Stela 2 (pl. 73e) was found 1.30 km southeast of Korbulag village and 0.37 km due south of Aparan Reservoir 2 (map quadrant B5p).

TOPOGRAPHY

The stela was discovered lying on its side atop a small conical hill that rises approximately 10 m above the surrounding undulating landscape to provide a view east to the Kasakh River valley.

GENERAL DESCRIPTION

This irregularly shaped basalt slab is 1.50 m long × 0.50 m wide × 0.10 m thick. The body is thin and rounded at the top while the base (17 × 10 cm) is set off-center. Three holes were drilled through the body (one 5 cm in diameter and two 10 cm in diameter). This is the most roughly hewn of all the stelae we recorded.

ASSOCIATED FEATURES AND MATERIALS

While the stela was not found in situ, there are indications that it may not have moved very far from its original place. On the same hill were found several basins (20–30 cm in diameter) carved into the bedrock, some with

APARAN QUADRANT (*cont.*)

associated “tethering rings” (see Badaljan et al. 1993: 5–6). One basin in particular, with a carved double lip, had roughly proportional dimensions to the stela’s base. While it is difficult to reconstruct with certainty, the association with carved stone basins — prominent features of Late Bronze/Iron I landscapes — does support the suggestion that the stela was installed contemporary with the Late Bronze florescence in the region. No surface materials.

HNABERD QUADRANT

STELA I

PLACE NUMBER	Ar/Hn.370.02	ILLUSTRATION	Pls. 15, 73b
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,362
UTM EASTING	428796	LATITUDE	40° 37.157′
UTM NORTHING	4496775	LONGITUDE	44° 09.510′
PERIODIZATION	N/A		

ASSOCIATION

This stela (pl. 73b) was found within the boundaries of Hnaberd Burial Cluster 14, 0.54 km northeast (bearing 52°) of Hnaberd Fortress (map quadrant B3i).

TOPOGRAPHY

See Hnaberd Burial Cluster 14.

GENERAL DESCRIPTION

This square stela is 64 cm tall × 27 cm wide × 15 cm thick. It was not found in situ nor even in close proximity to a cromlech or other built feature. It is less elaborate than many of the stelae recorded in the Tsaghkahovit survey quadrant in that it has neither rounded top nor socketed base. All sides are hewn roughly flat and the corners, except where broken, were squared.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

MANTASH QUADRANT

STELA I

PLACE NUMBER	Ar/Ma.00.01	ILLUSTRATION	Pls. 14, 73d
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,484
UTM EASTING	425054	LATITUDE	40° 37.480′
UTM NORTHING	4497470	LONGITUDE	44° 06.833′
PERIODIZATION	N/A		

ASSOCIATION

Mantash Stela 1 (pl. 73d) was found 3.31 km west (bearing 284°) of Hnaberd Fortress, 0.95 km north (bearing 7°) of Mantash Stela 3, along the same natural watercourse (map quadrant B2m).

TOPOGRAPHY

The stone was found atop a small hill above agricultural fields.

GENERAL DESCRIPTION

Standing erect on the crest of a hill, this tuff stela measures 3.0 m in height \times 2.2 m in width. In addition to numerous scars from sculpting, one face (the one turned to the north) includes a modern inscription with two sets of three initials in Armenian characters.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

STELA 2

PLACE NUMBER	Ar/Ma.55.04	ILLUSTRATION	Pl. 13
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,429
UTM EASTING	422062	LATITUDE	40° 35.758'
UTM NORTHING	4494314	LONGITUDE	44° 04.733'
PERIODIZATION	N/A		

ASSOCIATION

Found 1.8 km west (bearing 267°) of Mantash Settlement 1 (map quadrant B1b).

TOPOGRAPHY

This worked stone block was found on the east slope of a gentle rise, just below the ridge that overlooks the east bank of Mantash Canyon.

GENERAL DESCRIPTION

A small, worked tuff block, this square stela has flattened faces and truncated corners. The block appears to be broken and features a small depression on its top surface. The complementary segment is not present.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

STELA 3

PLACE NUMBER	Ar/Ma.17.04	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,291
UTM EASTING	424940	LATITUDE	40° 36.970'
UTM NORTHING	4496527	LONGITUDE	44° 06.759'
PERIODIZATION	N/A		

ASSOCIATION

Located 3.34 km west (bearing 267°) of Hnaberd Fortress, this cut stone block was found just 356 m west of Mantash Burial Cluster 7 (map quadrant B2i).

TOPOGRAPHY

The stela was found vertically set in the ground surface on the east slope of a small hill.

GENERAL DESCRIPTION

Carved from volcanic tuff, this stela stands 24 cm high. The top surface measures 20 \times 22 cm and the base is 22 \times 27 cm, giving each face of the object a roughly trapezoidal appearance. There is a bulge in the northwest

MANTASH QUADRANT (*cont.*)

face and a sizable notch in the southwest face. Excluding the northwestern and top surfaces, all faces demonstrate preparation of the stone.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

STELA 4

PLACE NUMBER	Ar/Ma.33.01	ILLUSTRATION	Pl. 14
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,417
UTM EASTING	426067	LATITUDE	40° 36.403'
UTM NORTHING	4495468	LONGITUDE	44° 07.564'
PERIODIZATION	N/A		

ASSOCIATION

Located 2.51 km southwest (bearing 242°) of Hnaberd Fortress (map quadrant B2f).

TOPOGRAPHY

This basalt block is set on the gentle slope of a ridge just west of a natural watercourse.

GENERAL DESCRIPTION

A basalt stela with a cross inscribed across the top surface, this monument measures 35 cm in height and is approximately 25 m square. Small cobbles had recently been collected around its base, suggesting its placement may be rather recent.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

STELA 5

PLACE NUMBER	Ar/Ma.37.01	ILLUSTRATION	Pls. 14, 73a
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,480
UTM EASTING	427313	LATITUDE	40° 36.259'
UTM NORTHING	4495155	LONGITUDE	44° 06.192'
PERIODIZATION	N/A		

ASSOCIATION

Located 1.27 km southeast (bearing 104°) of Mantash Stela 4, to which it seems to be related, Mantash Stela 5 (pl. 73a) was found on the northwest edge below (map quadrant B2c).

TOPOGRAPHY

This block was found lying on its side (not in situ) on a gentle hillside below Mantash Burial Cluster 28.

GENERAL DESCRIPTION

A trapezoidal basalt stela, this object is 65 cm tall × 30 cm wide at the base. A small cross set in a circle is inscribed on the top. The cross on the top suggests an association with Mantash Stela 4.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

STELA 6

PLACE NUMBER	Ar/Ma.37.02	ILLUSTRATION	Pls. 13, 73b
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,428
UTM EASTING	422061	LATITUDE	40° 36.220'
UTM NORTHING	4495170	LONGITUDE	44° 04.726'
PERIODIZATION	N/A		

ASSOCIATION

Just 300 m northwest of Mantash Stela 1, Mantash Stela 6 (pl. 73b) is 4.21 km southeast of Mets Mantash village (map quadrant B1b).

TOPOGRAPHY

This stela was found lying on its side, beneath a tall ridge, on a steep east-facing slope.

GENERAL DESCRIPTION

This basalt stela measures 60 cm in height × 28 cm square. A large cross is carved on the top with an inlaid metal disk set in the center.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

SAHAKABERD QUADRANT

STELA 1

PLACE NUMBER	Ar/Sk.326.01	ILLUSTRATION	Pls. 15, 73c
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,349
UTM EASTING	430255	LATITUDE	40° 36.930'
UTM NORTHING	4496402	LONGITUDE	44° 10.528'
PERIODIZATION	N/A		

ASSOCIATION

This stela (pl. 73c) was found in association with a wall on the southwestern end of Sahakaberd Burial Cluster 13, 0.95 km west (bearing 265°) of Sahakaberd Fortress (map quadrant B3j).

TOPOGRAPHY

Sahakaberd Stela 1 was found atop a gently sloping plateau overlooking the final descent of Mount Aragats to the Tsaghkahovit Plain below.

GENERAL DESCRIPTION

This small stela was found embedded in the center of the northern portion of a stone masonry wall whose relation to Sahakaberd Burial Cluster 13 is suggestive, but not clear. The worked basalt block is 63 cm tall in total with two definable segments, like those recorded in the Tsaghkahovit survey quadrant. The upper segment is 31 cm tall × 23 cm square. This portion bears the marks of working. The lower portion, 32 cm tall, appears to be socketed, with a slight lip discernible near the stela's midsection. But rather than the square base seen in Tsaghkahovit Stela 1, this base tapers in a pyramid shape to a narrow distal ridge 11 cm wide.

ASSOCIATED FEATURES AND MATERIALS

No surface materials. See Sahakaberd Burial Cluster 13 feature 3 for a more extensive discussion of the associated wall.

TSAGHKAHOVIT QUADRANT

STELA 1

PLACE NUMBER	Ar/Ts.076.02	ILLUSTRATION	Pls. 17, 19, 72a
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,140
UTM EASTING	436897	LATITUDE	40° 37.967'
UTM NORTHING	4498248	LONGITUDE	44° 15.233'
PERIODIZATION	N/A		

ASSOCIATION

This stela (pl. 72a) was found lying on the ground surface on the southeast corner of a kurgan, feature 1 in Tsaghkahovit Burial Cluster 41 (T.Ts.77.01) (map quadrant C5a).

TOPOGRAPHY

The stela and associated kurgan lie at the base of a rubble-strewn slope, on the northern edge of a small enclosed basin.

GENERAL DESCRIPTION

The stela is carved from black basalt. It is 70 cm tall in total with a stem 24 cm tall. The body of the stela is 29 cm wide × 24 cm thick. It is square at the bottom where it joins the stem and rounded at the top. The stem is 24.0 × 22.5 cm.

ASSOCIATED FEATURES AND MATERIALS

The overall shape of the stela suggests a stone phallus akin to those known from other Late Bronze Age sites, including Tsaghkahovit Fortress (Smith et al. 2004: 12). The association with the adjacent kurgan is suggestive but not entirely clear. Atop the kurgan is a cluster of larger stones that appear to form a small socket, perfectly sized for the stem of the stela. However, not only is it uncertain whether the stela did indeed once rest in this socket, it is also uncertain as to whether the socket itself was part of the original kurgan construction or was dug into the kurgan at some later date. See Avetisyan, Badalyan, and Smith 2000: fig. 11.

STELA 2

PLACE NUMBER	Ar/Ts.096.02	ILLUSTRATION	Pls. 17, 72b
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,295
UTM EASTING	437366	LATITUDE	40° 37.501'
UTM NORTHING	4497396	LONGITUDE	44° 15.567'
PERIODIZATION	Late Bronze(?)		

ASSOCIATION

This stela (pl. 72b) was found on the southern outskirts of Tsaghkahovit Burial Cluster 51, 2.68 km southeast (bearing 118°) of Tsaghkahovit Fortress (map quadrant B5n).

TOPOGRAPHY

The stela was found atop an eroded ridge which marks the southern extent of Tsaghkahovit Burial Cluster 51. Like the basin below which hosts the primary concentration of Tsaghkahovit Burial Cluster 51, the ridgetop bears the marks of considerable modern disturbance, including cement and other construction debris.

GENERAL DESCRIPTION

Like Tsaghkahovit Stela 1, Stela 2 was found lying on its side next to a large cromlech. It is made from gray basalt and the top quarter is broken from the remainder of the stone. The stela is 77 cm high with a 21 cm stem. The

body is 20 cm wide \times 20 cm thick where it joins the stem, but narrows to an uneven, rounded top 13 \times 13 cm. The stem is recessed from the body 2 cm and is 16.5 cm wide \times 17.5 cm thick. Overall, the stela gives the appearance of rougher workmanship than Stela 1.

ASSOCIATED FEATURES AND MATERIALS

Like Tsaghkahovit Stela 1, the overall shape of Stela 2 suggests a stone phallus akin to those known from other Late Bronze Age sites, including Tsaghkahovit Fortress (Smith et al. 2004: 12). The association with the adjacent cromlech is again suggestive, but there was no socket apparent in this burial where the stela might once have rested. Thus, our attribution of the stela to the Late Bronze Age is only provisional pending a more detailed investigation of the surrounding area.

STELA 3

PLACE NUMBER	Ar/Ts.161.05	ILLUSTRATION	Pl. 19
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,202
UTM EASTING	437074	LATITUDE	40° 38.258'
UTM NORTHING	4498799	LONGITUDE	44° 15.351'
PERIODIZATION	N/A		

ASSOCIATION

Tsaghkahovit Stela 3 is located 0.58 km north (bearing 18°) of Tsaghkahovit Stela 1 and 2.08 km east (bearing 86°) of Tsaghkahovit Fortress (map quadrant C5a).

TOPOGRAPHY

This stela was found atop a rocky, north–south-oriented ridge strewn with boulders.

GENERAL DESCRIPTION

Tsaghkahovit Stela 3 is a rectangular block 26 cm tall \times 22 cm wide \times 24 cm thick. It was found standing with its base slightly buried in the ground surface, but it is unclear if this constitutes an in situ find. The top of the marker appears to be broken, but again it is difficult to assess whether the remaining sculpted basalt represents the stem of a phallus-shaped stela or instead a more rectangular block such as those found in the Mantash survey quadrant.

ASSOCIATED FEATURES AND MATERIALS

No surface materials.

STELA 4

PLACE NUMBER	Ar/Ts.285.06	ILLUSTRATION	Pls. 16, 72c
UTM QUADRANT	38T	ELEVATION (M A.S.L.)	2,341
UTM EASTING	434735	LATITUDE	40° 36.755'
UTM NORTHING	4496038	LONGITUDE	44° 13.708'
PERIODIZATION	N/A		

ASSOCIATION

This stela (pl. 72c) was discovered on the western edge of Tsaghkahovit Settlement 2, 2.56 km southwest (bearing 188°) of Tsaghkahovit Fortress (map quadrant B4g).

TOPOGRAPHY

The stela was discovered on a gentle southeast-facing slope.

TSAGHKAHOVIT QUADRANT (*cont.*)

GENERAL DESCRIPTION

Tsaghkahovit Stela 4 is a carved basalt stone found atop what appears to be a small paved cromlech within Tsaghkahovit Burial Cluster 93.

ASSOCIATED FEATURES AND MATERIALS

Because the stela was in situ, we were only able to measure its dimensions above ground surface. It was found leaning at a 50° angle. It extends 52 cm above the surface, with a base 42 cm thick × 38 cm wide that narrows to roughly 12 cm square at the top. The top of the stela is flat and irregular with some signs of working.

CHAPTER 7

REMOTE SENSING DATA AND ANALYSIS

ADAM T. SMITH AND ALAN GREENE

The use of aerial photographs and satellite images has a rather unique, perhaps even uncomfortable, history in places like Armenia. Although aerial photographs have been employed as tools of archaeological reconnaissance since the waning years of World War I (Beazeley 1919, 1920; Stein 1919), the current array of available data owes its most profound debt to the Cold War. Following World War II, both the United States and the U.S.S.R promoted new large-format camera technologies and photogrammetric techniques that allowed for the systematic collection and interpretation of aerial photographs. These initiatives in both countries arose out of strategic intelligence programs, and the images remained highly sensitive, classified materials throughout the Cold War. The development and subsequent downing of a C.I.A. U-2 spy plane near Sverdlovsk in 1960 underlined the U.S. government's decision to project aerial surveillance globally, a move reinforced by the pictures of Soviet ICBM installations in Cuba that provoked the missile crisis of 1961. The downing of the U-2 helped accelerate the development of space-based imaging satellites, particularly the CORONA reconnaissance satellites.⁶² Given this strategic regime, it is unsurprising that the border between the Armenian S.S.R. and NATO member Turkey (just 32 km west of the Tsaghkahovit Plain) was an area of considerable interest to American intelligence agencies and is thus well represented in the declassified sources.

In this chapter, we describe the available data sources and their use by Project ArAGATS to assist in site detection and regional landscape modeling. Of particular concern are the taphonomic issues that center around Soviet-era land "amelioration" programs.

SITE DETECTION: AERIAL PHOTOGRAPHY

Aerial photographs served two primary functions in the regional investigations of Project ArAGATS. First, the images were utilized for basic site detection within and beyond the areas of the intensive pedestrian survey. Within the survey area, the information derived from the aerial photographs served as a useful check on our pedestrian survey procedures, ensuring that no sites visible from the air were missed on the ground. Beyond the survey area, visual inspection of the aerial photographs provided our sole means for detecting evidence of human habitation. Second, aerial photographs and satellite imagery were utilized to assess the extent and severity of land "amelioration" in the region through a comparison of time-series images.

DATA SOURCES AND PROCEDURES

Two sets of aerial photographs of the Tsaghkahovit Plain were made available to Project ArAGATS. The earliest series, taken in 1948, includes thirty overlapping black-and-white frames aligned in three east–west-oriented rows across the southern half of the study area, from the town of Artik in the west to Mirak in the east (pl. 34). The total coverage area of the 1948 series is 412 square km at 1:12,000 scale within an irregular area 33 km east–west and 12 km north–south. The prints are 21.5 × 23.0 cm, but the effective visible area of each exposure diminishes in the four corners. These images were likely taken with a Fairchild aerial large-format camera using Kodak film.

The second series, taken in 1989, consists of twenty-nine overlapping black-and-white frames aligned in three north–south-oriented columns across the eastern half of the Tsaghkahovit Plain, from the village of Lernapar in the far northwest to the outskirts of Aparan in the southeast (pl. 35). The total coverage area of the series is 275 square km at 1:20,000 scale within an irregular area 17.5 km north–south and 17.0 km east–west. The prints are

⁶² Despite the success of American spy satellites, the U-2 remains in service more than forty-five years later.

17 × 17 cm with no shadowing in the corners.⁶³ The 1948 and 1989 series provide overlapping coverage of an approximately 137 square km area in the southeastern portion of the study area.

Each frame was scanned and georeferenced to a Landsat 7 ETM image in order that observed features could be located in real geographic space. We began by examining each series separately, identifying the signatures of known sites encountered during the pedestrian survey and comparing them to unknown image details. While the denuded regional environment provides ideal visual conditions for aerial photography, the resolution of the photographs and the surrounding rocky landscape do not permit the identification of cemeteries or individual cromlechs. However, built structures, including fortresses, room blocks, and other architectural features, were clearly visible. After a feature of interest was identified within the survey area, we cross-referenced our site catalog to make sure it had been recorded. If a feature of interest lay outside the survey zone, it was cataloged and its location noted. Features detected by visual inspection were then cataloged and an itinerary for ground-truthing each site was developed and uploaded to a GPS receiver. Decisions to conduct subsurface investigations at any given site — including shovel test pitting or auger boring — were made on a case-by-case basis based on both visible evidence of human activity and evaluations of local geomorphology.

Features of interest which upon ground-truthing turned out to not be the result of human activity were removed from the catalog and are not described here. Confirmed sites within the survey area were added to the project database and appear in the place index (*Chapter 6*). What are listed here are therefore only confirmed sites located outside of the survey area and features of interest that could neither be confirmed nor dismissed due to intervening taphonomic processes. The numeric nomenclature employed here is a concatenation of the aerial photo series year, the row, frame number, and a consecutive site number.

FEATURES OF INTEREST

FEATURE 1

PLACE NUMBER	1948.A.8.1	PLATE	48
UTM EASTING	422243	UTM NORTHING	4500550

This possible feature of interest is visible in the aerial photographs as a series of very faint white circles set on the south bank of Gekhadzor Creek, southeast of the village of Norashen. These features were nowhere visible on the ground, but a series of very large modern stone debris piles attests to considerable earth-moving in the area. Although no surface materials were recovered, soil deposits appeared to be amenable to auger boring. We set out a transect of eight auger probes spaced at 10 m intervals. Half of the probes were abandoned immediately, as they hit bedrock just below topsoil. Four were successful in exposing cores 25–35 cm in depth. All revealed a topsoil horizon immediately atop a sterile yellow/white clay which overlay bedrock. In order to confirm this finding, we set an array of four 50 × 50 cm test pits around the westernmost auger probe, spaced 5 m in each cardinal direction. A single small unidentifiable ceramic sherd uncovered in the upper stratum of the southern test pit was the only artifact located in the area.

FEATURE 2

PLACE NUMBER	1948.A.8.3	PLATE	49
UTM EASTING	423216	UTM NORTHING	4500934

In the aerial photographs, this feature of interest appears as a rocky circle of stones, roughly 25 m in diameter, adjacent to a series of small irregular stone features. Just north of the main Alagyaz–Artik road, west of Gekhadir village, the features appear in the photos to lie at the end of a strip of cultivated land, suggesting they may relate more to field clearance than to construction. Nothing is visible at the location today and the entire area is under active cultivation. No subsurface testing was undertaken.

⁶³ The camera used to take these images is not presently known to the authors. Unfortunately, no catalogs provide a complete summary of Soviet aerial photography missions and the specifications of their

equipment. Thus it is not possible at present to put the extant images into the broader context of Soviet aerial surveillance.

FEATURE 3

PLACE NUMBER	1948.A.8.4	PLATE	49
UTM EASTING	423687	UTM NORTHING	4500571

This feature appears in the aerial photographs as a curvilinear construction on the north bank of the Gekhadzor River, just west of the village of Gekhadir. It measures 66 m north–south \times 45 m east–west. On the feature’s northern edge, the ends of the structure do not meet, creating the appearance of an opening or entryway, a pattern perhaps indicative of a large corral. Today, the area is largely denuded bedrock with no evidence of construction. Four small ceramic sherds were found on the surface; none were diagnostic.

FEATURE 4

PLACE NUMBER	1948.C.4.1	PLATE	50
UTM EASTING	420690	UTM NORTHING	4496396

Our attention was initially drawn to this area by a set of room blocks perched atop the eastern ridge of the Mantash River Gorge, clearly visible in the aerial photos. The area of construction appears to be 65 m long \times 15 m wide, but our visit to the area detected no evidence of construction, only piles of stone and soil debris that are undoubtedly the result of bulldozer activity.

However, when we dropped down off the ridge into the canyon itself, we encountered a significant scatter of ceramics (fig. 65) on the surface adjacent to a natural cave in the gorge wall. Auger probes within the cave proved unsuccessful, as bedrock lay just below a thin (5 cm) layer of soil. But two 50 \times 50 cm test trenches placed outside the cave on a small terrace above the floor of the gorge proved to be more productive. While the first test trench was largely devoid of cultural materials, the second operation revealed a series of layered ash deposits and a handful of ceramic sherds. None of the sherds was particularly revealing, classed by our reading as Iron IIIb through medieval (Group M). However, a single copper coin dating to the early eighteenth century A.D. serves to identify the site as part of a late medieval/early modern occupation. Armine Zograbyan, a numismatist at the Museum of the History of Armenia, describes the coin as one minted in 1719/20 during the time of the Iranian Safavid Shah Sultan Husayn (Hussein) at the Yerevan Mint. The obverse shows an image of an elephant, while the reverse contains the legend in Persian: “*Fulus* coined in Yerevan in 1132 [1719/20].” Iranian civic copper coins were referred to as *fulus*. Because the shah’s name is not mentioned, these types of coins are known as anonymous civic *fulus*.⁶⁴ The ash visible in the deposits suggests that this area of the gorge may have served as a midden for the settlement detected above in the aerial photos. This would argue for dating the settlement to the eighteenth century as well.

FEATURE 5

PLACE NUMBER	1948.A.6.1	PLATE	51
UTM EASTING	4496369	UTM NORTHING	420697

Visible in the aerial photos as a small line of built rooms along the northern bank of the Gegkhadzor River, several swales and segments of surface architecture still visible at the site indicate that it was once an area of habitation, perhaps a small farmstead. However, no surface materials were recovered and no subsurface tests initiated, so the date of the occupation remains undefined.

⁶⁴ Our thanks to Armine Zograbyan for sharing her time and expertise.

FEATURE 6

PLACE NUMBER	1948.B.5.1	PLATE	52
UTM EASTING	424207	UTM NORTHING	4496300

The most unambiguous of the features of interest detected in the 1948 aerial photographs, the rooms and walls of this settlement remain visible today in an area of the plain just west of the modern village of Hnaberd. In the 1948 photographs, the visible architecture occupies a diamond-shaped area of 30 square m. Faint traces of a watercourse in the aerial photos suggest that the village was built around a source of water which today has been diverted elsewhere. Standing walls, projecting well above the ground surface, were still visible at the site at the time of our visit in 2000. The buildings were constructed of medium, faced basalt blocks set in slightly irregular courses. The rooms appear to have been part of agglutinative multi-room structures set along the banks of the watercourse. No surface materials were found at the site and no subsurface testing was attempted. The preservation of the walls suggests a late medieval occupation; however, a more accurate determination must await further investigation.

FEATURE 7

PLACE NUMBER	1948.B.2.1	PLATE	53
UTM EASTING	431813	UTM NORTHING	4499162

Perhaps the most peculiar signature detected in the aerial photos, this feature of interest is quite conspicuous in the 1948 series photos, where it appears as a series of eighteen, presumably stone, circles, each 9–10 m in diameter and set in an open-ended rectangular array. While the function of these features is unclear, they do not appear to be particularly ancient since the walls appear to be preserved for several courses above the ground surface. Indeed, what is more interesting about these features is what happened to them after 1948, not before. None of the features visible in the area of 1948.B.2.1 remains in the 1989 (frame C11) image. Additional features have appeared in the area in the meantime, likely associated with the area's appropriation for military exercises. However, not only have the built features of 1948.B.2.1 gone missing, further inspection reveals a far broader transformation of the local landscape attributable to land amelioration that is discussed in the final section of this chapter.

MODELING LANDSCAPE DYNAMICS: SATELLITE IMAGERY

AVAILABLE SOURCES

Satellite views of southern Caucasasia are available in most formats familiar to archaeologists. The CORONA, LANDSAT, ASTER, SPOT, and SRTM (Shuttle Radar Topography Mission) platforms have all acquired imagery from the region over the last half-century. We discuss the utility of CORONA, LANDSAT, and SRTM data here, but this is by no means an exhaustive presentation of the available satellite tools for landscape modeling and analysis.

The first successful CORONA mission, launched on August 18, 1960, acquired imagery of 1.65 million miles of Soviet territory (Peebles 1997), including areas of eastern Caucasasia. The first images of southern Caucasasia — focused conspicuously on the border with Turkey — were captured on August 30, 1961 (mission 9023), but most of the images from the early 1960s are of limited utility due to poor image quality, heavy cloud cover, or snow (and, occasionally, all three). Table 3 summarizes the CORONA missions that provide coverage of southern Caucasasia.

Table 3. Summary of CORONA Missions Providing Coverage of Southern Caucasia

<i>Date</i>	<i>Mission</i>	<i>Primary Coverage Area</i>	<i>Quality</i>
8/30/1961	9023	Armenia (056D) and Azerbaijan (040D)	Heavy Cloud Cover
2/27/1962	9031	Armenia and Azerbaijan	Snow Covered
8/25/1963	1001-1	Eastern Turkey and Armenia	Poor Image Quality
9/23/1963	1002-1	Eastern Turkey and Armenia	Moderate Cloud Cover
9/26/1963	1002-1	Eastern Turkey and Armenia	Poor Image Quality
2/21/1964	1004-2	Turkey and Armenia	Heavy Cloud Cover
6/26/1964	1007-2	Armenia and Azerbaijan	Heavy Cloud Cover
7/13/1964	1008-1	Armenia	Clear
8/8/1964	1009-1	Armenia	Clear
10/8/1964	1011-1	Eastern Turkey and Armenia	Clear
11/22/1964	1014-1	Armenia and Azerbaijan	Heavy Cloud Cover
1/18/1965	1016-1	Eastern Turkey and Armenia	Snow Covered
10/31/1965	1026-1	Eastern Turkey and Armenia	Heavy Cloud Cover
11/4/1965	1026-2	Eastern Turkey and Armenia	Moderate Cloud Cover
5/11/1968	1103-2	Azerbaijan and Eastern Armenia	Clear
11/6/1968	1105-1	Eastern Turkey	Moderate Cloud Cover
11/7/1968	1105-1	Armenia	Moderate Cloud Cover
8/3/1969	1107-2	Armenia and Eastern Turkey	Heavy Cloud Cover
7/28/1970	1111-1 (082A)	Armenia and Eastern Turkey	Clear
9/14/1971	1115-1	Armenia	Clear
9/20/1971	1115-2	Armenia	Clear

LANDSAT images for the project area are available in MSS (Multi-Spectral Scanner), TM (Thematic Mapper), and ETM (Enhanced Thematic Mapper) formats, allowing a temporal scope that stretches from 1977 to the present day (see Lillesand, Kiefer, and Chipman 2004 or Sherbinin et al. 2002 for detailed scanner capabilities). While early LANDSAT platforms like the MSS instrument have significantly poorer spatial resolution than NASA's more recent tools, they allow for the examination of landscape features before the large-scale expansion of agriculture over the last twenty years (Lerman, Csáki, and Feder 2004). The privatization of farming plots following the dissolution of the Soviet Union and the expansion of the agricultural sector of the Armenian economy has resulted in a significant occlusion of landscape features that were previously visible. As shown on plates 54–56, large-scale communal farming during the Soviet period gave way to rapidly expanding private farming during the 1990s. LANDSAT data allow the Soviet-period land amelioration program to be examined alongside the less systematic, yet equally damaging, changes of the last fifteen years associated with land privatization.

In the 1977 MSS image (pl. 54), the various tributaries of the Kasakh headwaters are clearly visible among the Pambak slopes and along the northeast flank of Mount Aragats. The intermediate TM image from 1989 (pl. 55) has better resolution than the MSS image, yet it shows a rather stable cadre of farming plots, and reflectance visibility of topographical, hydrological, and settlement features remain similar between the two scenes. However, by 2000, as the newly independent Republic of Armenia began the process of land privatization, the ETM image (pl. 56) shows a striking expansion of land in the Tsaghkahovit Plain under cultivation, as well as a reduction in the size of individual plots due to the break up of the collective farms.

Higher resolution reflectance data drawn from the ASTER platform beginning in 1998 is similarly useful for evaluating recent land-use patterns and regions of the plain where the potential for highly disturbed archaeological deposits is highest (Kaufman et al. 1998; Yamaguchi and Naito 2003; Yamaguchi et al. 1998). By the late 1990s, ASTER images reveal that farming plots on the Tsaghkahovit Plain were laid out across, and occasionally set into, the plain's natural drainage channels which had been flowing unimpeded just ten years prior. They also document the construction and filling of reservoirs and the generally decreased flow of the plain's southern drainages. These transformations in land use are important when evaluating the potential effectiveness of various pedestrian survey methods. Indeed, changes in the agricultural, land cover, and hydrological regimes of the Tsaghkahovit Plain since Armenia's independence are only the most recent landscape transformations in the region. Earlier Soviet programs to clear agricultural land had highly significant impacts on the plain.

In addition to detecting land changes over the last two decades, ASTER data were also used in the identification of surface features via computerized classification of reflectance data. Plate 58 shows an unsupervised classification image of the Tsaghkahovit Plain taken from a 2004 ASTER image (resolution 15 m). Various elements of the contemporary Tsaghkahovit Plain landscape are grouped based on their common reflectance values. Villages and roads are clearly identified with light blue pixels, resulting from brown coloration of dirt roads and extramural spaces in each settlement. The brush and tree cover on the upper slopes of Mount Aragats, as well as the sharply geometric modern tree farms, built to reduce soil erosion and turf slumping brought on by over-grazing, are visible as red and dark blue classes (representing coniferous trees, loci of higher-moisture vegetation in the area). Ponds, pools, and other expanses of open water were assembled into a yellow class, including the bogs in the southeast portion of the survey area. As the majority of burial constructions are constructed from the same lichen-covered basalt or granite that regularly interrupts the Aragats and Pambak foothills, reflectance classification was not helpful in remotely viewing burial clusters as a class.

In addition to reflectance data, digital elevation data drawn from NASA's SRTM has rapidly become one of the most useful and widely accessible techniques for developing remotely sensed digital elevation models (DEMs). Beginning with the Shuttle Imaging Radar missions A and B in the early 1980s (Holcomb 1992, 2001; Kasischke, Melack, and Dobson 1997; Wendorf, Close, and Schild 1987), NASA has maintained civilian and scientific access to space-borne radar systems, or Synthetic Aperture Radar (SAR). The SRTM mission, performed in 2000, involved the shuttle-coupled radar imaging of the entire globe (van Zyl 2001). SRTM data remains occasionally spotty and is ideally utilized in concert with older earth DEMs which can be used to fill in rare, but occasional data gaps.⁶⁵ Project ArAGATS constructed SRTM models of the South Caucasus using this technique, overlaying the one degree-square SRTM tiles atop the GTOPO 30 digital elevation model for Eurasia. The result is a 90 m resolution project DEM which utilizes GTOPO 30 values only on top of Mount Aragats where the mountain's volcanic spires likely shielded the radar (pls. 1–2, 57).

A more refined DEM was developed for Project ArAGATS by Eastview Cartographic utilizing 1:10,000 scale 1 m contour Soviet topographic maps (pls. 11–12). These DEMs are valuable remote sensing tools in their own right and extraordinarily powerful when used in tandem with reflectance instruments. Due to the expansion of land under cultivation and the occlusion of topographic features, elevation modeling is critical to understanding surface features that reflectance data leaves undifferentiated. Any nuances of relief in the region are almost impossible to pick out without the aid of DEMs. Color tables and digital contour lines help to parameterize the study area and break it down into heuristic subregions for the purpose of analysis. Techniques for modeling local hydrology from DEMs, among other land attributes, were also utilized by Project ArAGATS.

For example, in the project's attempts to identify likely bog and marsh areas in the survey area — ideal locations for pollen core sampling — elevation was essential in identifying what were likely the deepest basins and most active watercourses in the survey area. The project used quantitative slope values and GIS tools to digitally "flood" the DEM, repeatedly filling watersheds and basins with simulated storm events, in order to identify the habitually wettest portions of the landscape (pl. 59). By digitally flooding the survey area three times it was possible to identify the wettest, most bog-prone subregions and target them for investigation as potential pollen core sites. While these bogs and basins were not particularly low from the perspective of absolute elevation, they were surrounded by high relief on all sides and therefore retain a much larger proportion of the water they receive. Hydrological data derived from different forms of DEM analysis were always ground-truthed by pedestrian survey.

⁶⁵ See <http://www2.jpl.nasa.gov/srtm> for information on the data's current status.

This was necessary because hydrological land attributes suggested by elevation models often differ from actual conditions due to modern water diversions, land alterations, and local geology.

Slope calculations were also used to confirm the landform or watershed divide between the three major drainages in the project area: 1) the drainage of the Pambak foothills toward the Aparan Valley; 2) the northwesterly draining of Mount Aragats into the Shirak Plain; and 3) the northeasterly draining of Mount Aragats toward the Aparan Valley. Interestingly, many of these drainages were found to be dammed and otherwise diverted by both formal and informal controls such that the orderly flow suggested by the elevation models was almost always contradicted by ground conditions.

MODERN LAND USE AND ARCHAEOLOGICAL RESOURCES: LAND AMELIORATION

As the investigations of Project ArAGATS indicate, the Tsaghkahovit Plain has a long history of broad-scale landscape transformations. The sculpting of built terraces out of volcanic rock during the Late Bronze Age to build Tsaghkahovit Fortress certainly stands out as an impressive commitment to landscape transformation, as do the ancient reservoirs and watercourses that descend the slope of Mount Aragats. However, these initiatives pale in comparison to the regional impact and transformative ambition of the Soviet-era land amelioration program. This grand modernization project was primarily focused on increasing the extent and productivity of land under agricultural production from the polar regions to the southern deserts of Central Asia. The Ministry of Amelioration and Water Economy is reported to have operated with a budget second only to the Ministry of Defense and operated through numerous research institutes with hundreds of mechanized units at their disposal (Maslov et al. 2002; Trifonov and Karakhanyan 2004). The grandest (and most ill-advised) amelioration projects were the irrigation programs that led to the virtual disappearance of the Aral Sea. In areas like the Tsaghkahovit Plain, land amelioration involved land clearance and the construction of irrigation facilities. Land clearance involved the extensive use of bulldozers and heavy machinery to clear rocks and open land for planting by the local collective farms. The impact of this earth-moving on archaeological resources is not difficult to see, particularly in the aerial photographs.

Knowing the extent of the land amelioration initiatives in the U.S.S.R., it came as no surprise to us that only the 1948 series aerial photos yielded evidence of sites beyond the confines of our survey area (indeed, as we note in *Chapter 4*, our survey areas were set out to avoid areas impacted by amelioration). Despite the considerable immediate evidence of destructive taphonomic processes in the region provided by our visits to features visible in the 1948 series images, it was quite difficult to plot their impact more broadly from such a limited number of field inspections. Thus, when features of interest were noted in the 1948 series images, we also cross-referenced their locations where possible with the 1989 series photographs. If the locations overlapped, we sought to identify the same feature in the later series in order to assess the impact of amelioration. Most often, features located in the Tsaghkahovit depressions — within the plain proper — outside of our survey area in the 1948 images were no longer visible in the 1989 photos.

Based on the remotely sensed data and ground-truthing, Soviet-era land amelioration appears to have had a devastating impact on built features from across all corners of the plain proper and in some areas cleared flat areas within the foothills of the surrounding slopes. However, what was not immediately clear was the intensity of these initiatives. Closer inspection of the area around feature 7 (1948.B.2.1) provided the clearest sense of the intensity of the earth-moving in the region (pl. 53). In the 1948 image, a broad alluvial fan 960 m wide, is clearly visible. In the 1989 photo, not only is feature 7 gone, but the alluvial fan has also been destroyed, leaving only traces of a single watercourse. This image series suggests that land clearance in the Tsaghkahovit Plain not only involved clearing conspicuous piles of stone — thus likely dismantling built archaeological features — but also deeply scraped the surrounding ground surface removing, or burying well below the plow zone, artifacts that might have been detectable by surface survey.

CONCLUSION

Remote sensing tools now play an invaluable role in archaeological survey practice. For Project ArAGATS, these data sources have been used for purposes of traditional site detection, as well as modeling landscape

transformation and site taphonomy. Both Soviet and post-Soviet land projects have severely altered the appearance of the plain, obscuring, and in many instances eliminating, any traces of formerly visible archaeological resources. This reality, clearly visible from the remote sensing evidence, allowed the survey quadrants to be more effectively targeted, sampling lesser disturbed areas over those of known amelioration. At the same time, aerial and satellite tools allowed the plain to be examined as a dynamic and complete landscape, a system of watersheds that is deeply integrated into contemporary practices of irrigation, agriculture, and land management. As agriculture continues to expand to higher elevations, issues of hydrology and water management are sure to become even more pivotal in local land allotment policy.

CHAPTER 8

A COMPOSITIONAL PERSPECTIVE ON CERAMIC EXCHANGE AMONG LATE BRONZE AGE COMMUNITIES OF THE TSAGHKAHOVIT PLAIN, ARMENIA

LEAH MINC

INTRODUCTION

Compositional analyses of ceramic pastes offer a robust method for monitoring the organization of ceramic production and exchange in prehistory. By focusing on the distinctive geochemical and mineral signatures of their products, ceramic provenance studies can identify and locate different centers of pottery production and enable us to map the distribution or movement of ceramic vessels from producer to consumer.

This investigation into the organization of ceramic exchange during the Late Bronze Age combines instrumental neutron activation analysis (INAA) and petrographic analyses of ceramics and clays to determine where pottery vessels were manufactured and to where they were exchanged within the Tsaghkahovit Plain. The immediate goals of this study were twofold: 1) to characterize regional variation in natural clay composition within the valley and identify the location of major centers/areas of ceramic production; and 2) to determine the provenance of specific artifacts and monitor the flow of ceramic goods among Late Bronze Age sites.⁶⁶

More broadly, however, this study utilizes the movement of ceramics to provide an important perspective on economic interaction among communities relative to political developments during the Late Bronze Age (Smith et al. 2004). Questions of interest here include the spatial scale of integration, that is, whether communities of the Tsaghkahovit Plain participated in a regional exchange network, or whether the plain was divided among a series of more local exchange systems congruent with political boundaries. A related concern involves the volume and directionality of exchange, including whether transactions were reciprocal among communities, or whether certain centers dominated the flow of goods. Finally, what was the social context of exchange? Information on the type of vessel (elite serving vessels versus utilitarian wares) and depositional context (settlement versus tomb) can highlight whether exchange was limited to gift exchange among elites, or whether exchange provided an important means of economic integration for the broader society.

APPROACHES TO CERAMIC PROVENANCE: METHODS AND DATABASE

The determination of ceramic provenance from paste characteristics rests on the assumption that each raw material source or clay bed results from a unique combination of parent material and geomorphologic processes. Primary clays (i.e., those weathered directly from bedrock) will contain natural inclusions representing the mineral composition of the parent material, while secondary (eroded and re-deposited) clays will reflect both their ultimate geological origin and their depositional history.

The spatial resolution that can be achieved in “sourcing” ceramics depends in large part on the spatial scale of geochemical variability in natural clay resources and their depositional history (Bishop and Blackman 2002). Clay sources can range from localized and intensively exploited mines to broad regions of geochemically similar deposits suitable for pottery manufacture. A clear understanding of the distribution and composition of potential raw material resources is therefore an important first step in determining ceramic provenance.

Equally important, however, is understanding the cultural dimension of pottery production. Ceramics are an inherently plastic medium, and their composition reflects not only available raw materials, but the accumulated

⁶⁶ Although the ceramics subject to analysis are more properly diagnostic of the Late Bronze through Iron I period (ca. 1500–780 B.C.), the lack of any clear evidence of Iron I period occupation in

the region leads us to define the exchange networks outlined here as specifically Late Bronze Age phenomena.

cultural wisdom on how best to utilize those materials to create serviceable vessels for serving, cooking, and storage (Arnold, Heff, and Bishop 1991). Cultural practices such as refining clays, adding temper, or mixing clays to attain the desired paste recipe can either enhance or blur the distinctiveness of the natural clay signature (Bishop and Neff 1989; Blackman 1992; Kilikoglou, Maniatis, and Grimanis 1988; Carpenter and Feinman 1999; Minc 2008; Rice 1982).

In order to evaluate the contribution of natural and cultural factors to the composition of the final product, it is frequently advisable to pair precise analytic techniques for bulk geochemical analysis, such as INAA, with optical petrographic analyses of ceramics and clays. Through the production and analysis of radioisotopes, INAA routinely provides sensitive quantification of up to thirty major, minor, and trace elements representing the major dimensions of geochemical variability in clays and pottery (Neff 1992; Neff and Glascock 1995; Bishop and Blackman 2002; Glascock and Neff 2003). Visual analyses, in contrast, provide a valuable check on the mineral and petrographic content (and hence the geologic context) of natural clays and help assess the degree to which potters may have modified their raw materials (Neff, Coopwell, and Ross 2003; Stoltman 1989, 1991; Stoltman, Burton, and Hass 1992; Stoltman et al. 2005).

This study utilized a three-pronged approach to monitor ceramic production and exchange. First, potential variability in raw materials was evaluated from regional maps of surficial geology and through local geological surveys. Second, clay deposits near major settlements (i.e., those most accessible to ancient potters) were sampled and analyzed to provide base-line data on their natural trace-element and petrographic signatures and to identify regional differences in clay composition. Third, a large sample of ceramic vessels were analyzed for their trace-element content as a basis for evaluating the spatial scale, volume, and social context of ceramic exchange among Late Bronze Age settlements.

To date, a total of 287 ceramic samples of Late Bronze Age black-gray ware and twenty-seven clay samples have been analyzed for elemental composition using INAA (table 4). Approximately 10 percent of the sherds were thin-sectioned and analyzed for their petrographic and mineral content using standard point-count procedures. Clay samples were formed into tiles and fired, and then examined using a 30× binocular scope to evaluate the range of mineral species present. In both cases, analyses are ongoing: trace-element studies of ceramics from settlements at Horom and Tsaghkahovit (Lindsay 2006; Descantes, Speakman, and Glascock 2004, 2005) will significantly expand our Late Bronze Age sample; additional petrographic and trace-element analyses of Early Bronze Age ceramics are in process.

Table 4. Ceramic and Clay Samples Submitted for INAA

SITE	INAA		PETROGRAPHIC
	Clay Samples	Late Bronze/ Early Iron Age Sherds	Late Bronze/ Early Iron Age Sherds
Aragatsiberd	0	10	3
Gegharot	9	161	0
Tsaghkahovit	6	63	16
Hnaberd	6	47	11
Mantash	2	6	0
Mirak	2	0	0
Norashen	2	0	0
Total	27	287	30

UNDERSTANDING NATURAL VARIABILITY IN CLAY RESOURCES

The Tsaghkahovit Plain, lying at approximately 2,060–2,070 m a.s.l., is an isolated intra-montane basin. The basin floor is covered with several hundred meters of lacustrine, alluvial, and volcanic deposits, while the topography rises steeply to the north, east, and south. From the perspective of ceramic provenance studies, the

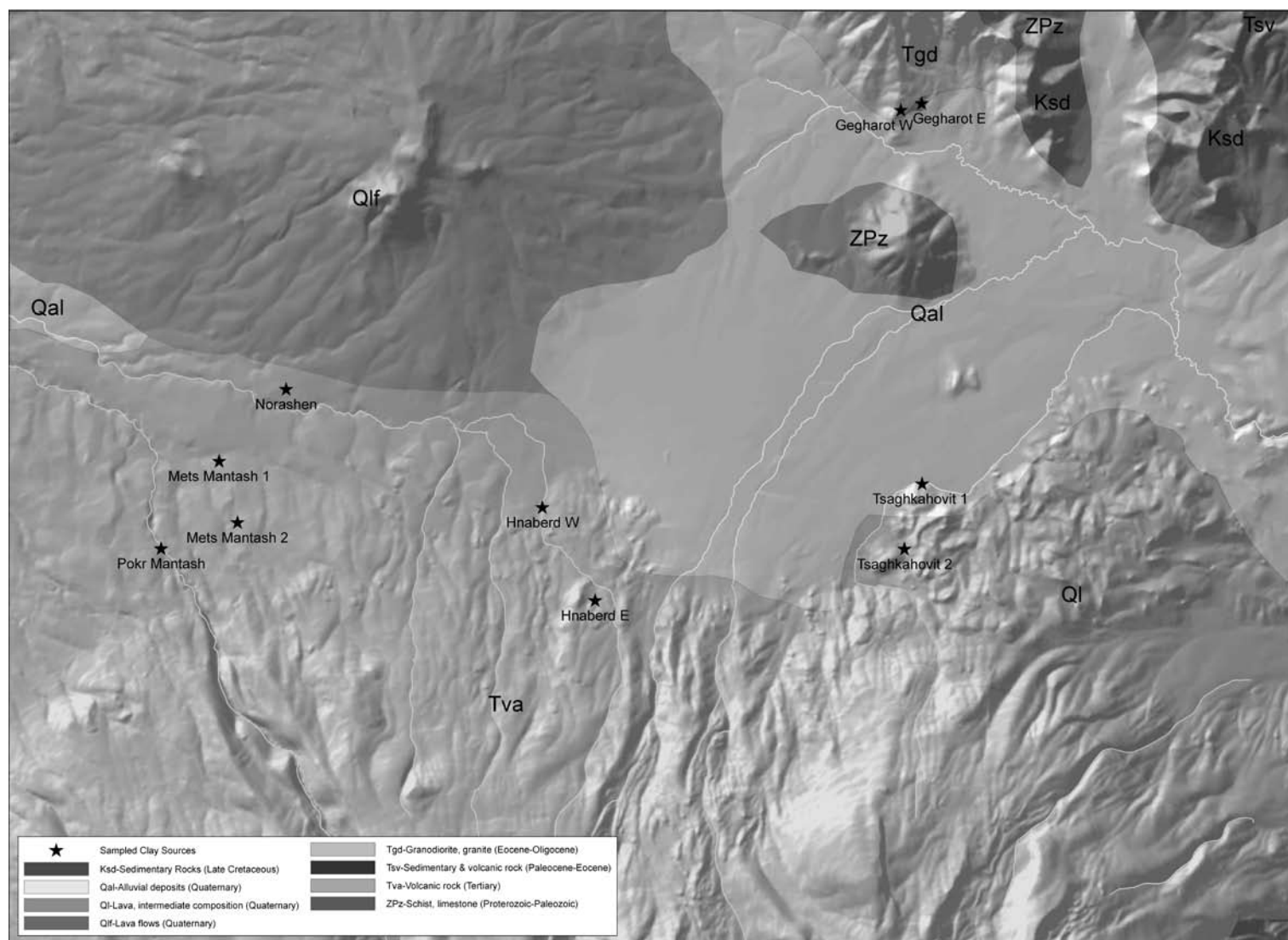


Figure 70. Map of the Major Geological Units in the Tsaghkahovit Plain

broken terrain and diversity of geological formations surrounding this basin increases the probability for the formation of chemically distinct clays within different subregions of the study area (fig. 70).

Preliminary assessment of the geological history of the Tsaghkahovit Plain indicates that the study area is bounded by three distinct features, each characterized by a distinctive petrology and associated mineralogy (see *Chapter 5*). The southern flank of the depression is formed by the northern slope of Mount Aragats. Rising to a height of 4,090 m a.s.l., Mount Aragats and the parasitic cone of Kalachi Tepe feature recent volcanic materials and high (>2,200 m) valley-head moraines of considerable clayey content. Petrographic analyses of rocks from the fortress sites along the base of this slope indicate a predominance of porphyric andesites of clinopyroxene-plagioclase content (Tva), although the full suite of volcanic extrusives (rhyolite-dacite-andesite-basalt) is represented in the region (Maldonado and Castellanos 2000). Other characteristic debris of recent (Quaternary) volcanic activity include deposits of ash flow, tuff, pumice, and volcanic glass (Ql, Qlf).

In contrast, the northern flank of the plain is bounded by the western extension of the Pambak Ridge. This formation is composed largely of ancient sedimentary rocks of the Cretaceous era, including limestone, siltstone and conglomerates (Ksd), and volcanogenic sedimentary rocks (Tsv) of Tertiary date. However, in the vicinity of Gegharot, the ridge is cut through with a large granitoid intrusion (Tgd) which forms the hill and area surrounding the site. This intrusion contains localized dikes of granite-aplite, diorite, and gabbro, while the contact zone of the Gegharot intrusion contains limestone skarns and hornfels as well as important sources of copper ore.

Finally, to the east, the Tsaghkahovit Plain is bounded by the Tsaghkunyats range. This distinctive metamorphic feature consists of Proterozoic schists, limestone, and marble, cut through by Mesozoic leucogranites (Pzm) and Paleozoic gabbros and pyroxenite (Pzg).

In order to evaluate the character of clays derived from these different formations, clays were sampled near Tsaghkahovit, Hnaberd, and Mantash along the southern flank, from Mirak along the eastern flank, and Gegharot along the northern flank (fig. 70).⁶⁷ Trace-element and petrographic analyses of these clays illustrate the distinctive geochemistry of these regions, although our sample does not capture the full range of variability.

In general, clay samples from the southern flank clearly reflect their volcanic origin. Most contain abundant crystals of plagioclase and pyroxene, along with fine grains of magnetite, fine white spheres of cristobalite, and petroclasts of rhyolite; many contain fragments of pumice and lenses of ashy material. In terms of their bulk chemistry, clays from the southern flank display relatively high concentrations of the first series transition metals and the rare earth elements (REE) in comparison to other clays in the plain, as would be expected for clays derived from recent volcanic materials. However, these clays are quite variable in calcium content (<5%–25%). Further information on the specific geomorphic context of the various clay beds sampled is needed to interpret these more local variations in clay composition.

In contrast, clays from Gegharot on the northern flank contain large (1.5–2.0 mm) inclusions of quartz-plagioclase granites, as well as small flecks of biotite mica and hornblende crystals. These clays are distinctly high in sodium relative to other clays; the high sodium values may well reflect the albite ($\text{NaAlSi}_3\text{O}_8$) content of monzonite, a major constituent of the Gegharot intrusion. These clays also contain consistently lower values of the transition metals and REE than clays from the southern flank.

Finally, the clays from Mirak, located within the metamorphic feature east of the plain, present a unique profile. These clays appear to contain tabular fragments of schist and are characterized by extremely high concentrations of manganese, but low values of chromium, nickel, and titanium relative to other clays of the region. Further, these clays are distinctly depleted in the light REE (lanthanum, cerium, and samarium) relative to the heavy REE, a pattern that contrasts sharply with that of clays derived from andesitic lavas.

UNDERSTANDING CULTURAL MODIFICATIONS: THE PETROGRAPHIC DATA

In order to understand how potters selected and utilized clay resources — and the extent to which the natural clays were modified in the production of ceramic vessels — a sample of thirty sherds were thin-sectioned and analyzed petrographically. Based on the composition of the petroclasts and mineral species present, several distinctive groups can be identified within this sample that can be clearly identified with the geological formations outlined above.

The majority of ceramics ($n = 17$) contain rock fragments and mineral inclusions representing the recent andesitic lavas of Mount Aragats; dominant petroclasts include angular to somewhat rounded fragments of andesite, rhyolite, and dacite. A related group contains recent volcanics but mixed with variable amounts of ancient granite ($n = 9$). The granite is generally described as leucocratic (quartz-plagioclase), although examples of biotite-hornblende granites are found as well. The source of the granites is not known. The bulk trace-element data of these ceramics, however, link them strongly with the preceding group: the granite-bearing sherds are somewhat lower in the light REEs (lanthanum, cerium, samarium), as well as tantalum, thorium, and titanium, but are otherwise indistinguishable from ceramic clays derived of Mount Aragats.

In contrast, a distinct subset of sherds was characterized by paleocrystalline rocks ($n = 3$), including ancient granites, quartzites, and schists, again mixed with lesser amounts of recent volcanics (andesites and rhyolites). These lithoclasts reflect the ancient metamorphic complex of the Tsaghkunyats range. Finally, one example contained a predominance of ancient granites and sedimentary rocks mixed with recent volcanics (andesites). The combination of plagioclase-quartz granite with cineritic tufa and limestone fragments is distinctive and points to a clay source near the Gegharot intrusion.

⁶⁷ Several of the clays collected did not appear suitable for the manufacture of ceramic vessels. The tiles made from Pokr Mantash clays disintegrated after firing, and were not included in further analyses. Clays from Mets Mantash were extremely soft after firing

to the point of being of no practical utility. These samples were found to be extremely high in calcium (ca. 25%) and correspondingly low in aluminum, a major element in clay minerals; they were almost certainly not used in ceramic production.

Although our sample size is relatively small, these petrographic data suggest that ancient potters selected locally available upland clays for the manufacture of their vessels. Overall, the petrography of inclusions (rock fragments and minerals) reflects the local geology, and angular shape and variable size range of inclusions are characteristic of primary clays developed in situ, rather than the generally fine and well-sorted inclusions of redeposited or alluvial clays.

Further, these raw materials appear to have been utilized for the manufacture of ceramic vessels without significant modification of the natural paste. All the hallmarks of added temper, such as large amounts of inclusions of uniform size, shape, composition, and/or non-local origin (Rice 1987: 409; Shepherd 1980: 161–62), are absent. Rather, the irregular, angular shape and lack of size grading are consistent with naturally occurring inclusions found in residual clays, rather than ground or crushed temper. Also, the fact that the trace-element composition of these ceramics matches that of whole clays (rather than just the fine fraction) suggests that clays were not levigated to remove a significant portion of natural inclusions other than removing the largest rock fragments.

Based on the sample available to date, ancient potters appear to have utilized the same clays for a broad range of vessels, and they did not select different clays or develop distinct paste recipes for different functional shape classes, such as serving vessels, water jars, or cooking pots. Overall, vessels of different wares (fine versus utilitarian) and forms (open jars, closed jars, and bowls) display nearly identical paste textures, with similar percentages of clay matrix, pores, and inclusions. Nor are differences apparent between fine and utilitarian wares, or among different vessel shape classes, in the maximum size or size range of inclusions present.

Finally, the petrographic data offer insights into ceramic technology. The consistent presence of clay pellets in ceramic pastes indicates clays were mined dry or semi-dry and reconstituted. These pellets are marked by concentric zones of void and fine clay particles, and appear to indicate the clumping and balling of clay during mixing, rather than the addition of grog (crushed, recycled pottery). The generally dark color (black-gray) of ceramic surfaces and pastes suggests that they were fired in a reduced oxygen environment, while areas of vitrification of the clay matrix indicate firing temperatures in the range of 1000–1200° C.

DETERMINING CERAMIC PROVENANCE

All samples of pottery and clay were prepared and analyzed by the author at the University of Michigan's Ford Nuclear Reactor, following now standard INAA procedures for archaeological ceramics (e.g., Glascock 1992).⁶⁸ Following irradiation, the trace-element composition of pottery was characterized along a profile of thirty elements representing the standard suite of the more precise short, intermediate, and long half-life elements consistently employed in the analysis of archaeological ceramics.

⁶⁸ Preparation of the archaeological ceramic samples involved removal of surface contamination by abrading exposed and weathered surfaces from a portion of each sherd using a solid tungsten carbide burr. The sherd was then rinsed with deionized water to remove any dust from grinding, and the exposed portion was snipped off and dried at 200° F for a minimum of two hours. This portion was later ground to a powder with a mortar and pestle, and the powder deposited in a clean glass vial and dried at 200° for an additional twenty-four hours.

In order to make the raw clay samples comparable to the ceramics, the clays were worked, formed into tiles, and fired. First, because of the high level of large inclusions in some of the raw clays, the clays were levigated to remove the inclusions from a portion of the sample and allow us to assess the contribution of natural inclusions on the clay's chemical signature. Approximately 150 mL of raw clay was placed in a liter beaker and mixed well with deionized water to produce a slurry. Saturated clay samples were left undisturbed until the clay had settled, at which point the excess water was decanted. If the clay showed significant stratification, multiple sample tiles were prepared from the fine and coarse fractions, and from the whole clay. If no fractionation was observed, samples were simply prepared using the total matrix.

The resulting clays were then molded by hand into small tiles approximately 2 × 4 × 1 cm in size, which were dried and then fired at 800° C for one hour to burn off organic content and adsorbed water.

Tiles that fell apart during or after firing due to a lack of clay content were excluded from further analysis. For clays that produced a hard tile, a portion of the tile was cleaned and then pulverized with a mortar and pestle for trace-element analyses, while the remaining portion was retained for future petrographic analyses.

Element concentrations were determined through two irradiations, and four different counts of resulting gamma activity. For data on elements with intermediate and long half-life isotopes (including As, Ba, La, Lu, K, Na, Sm, U, Yb, Ce, Co, Cr, Cs, Eu, Fe, Hf, Nd, Rb, Sc, Sr, Ta, Tb, Th, Zn, Zr), approximately 200 mg of dried powder from ceramic and clay samples was encapsulated in high-purity quartz tubing and irradiated for 20 hours in a core-face facility experiencing an average thermal neutron flux of 4.2×10^{12} n/cm²/s. Following irradiation, two separate counts of gamma activity were done: a 5,000-second count (live time) of each sample after a one-week decay period, and a 10,000-second count (live time) after a period of five weeks' decay. For data on elements with short half-life isotopes (Al, Ca, Ti, V, K, Mn, Na), approximately 200 mg of powder was encapsulated in high-purity polyethylene vials and delivered via pneumatic tube to a core-face irradiation location with an average thermal flux of 2.1×10^{12} n/cm²/s for a one-minute irradiation. Again, two separate counts were made, one after a thirteen-minute decay and a second count after a 1 hour and 56 minute decay; both were for 500 seconds.

Multivariate statistics were employed to identify groups of samples with similar elemental composition, distinct from other such groups, with each group representing a distinct clay or production source (Bishop and Neff 1989; Glascock 1992; Glascock and Neff 2003). The analysis proceeded through three phases: 1) preliminary group formation utilizing a combination of bivariate and multivariate techniques (including scatter plots, principal components analysis, and cluster analysis) to gain initial insight into possible groups within the data set; 2) group refinement to create statistically homogeneous core groups distinct from other such groups based on the multivariate probability of group membership (usually calculated from the Mahalanobis D^2 statistic); and 3) classification of non-core members into their most likely compositional group based on discriminant function analysis or other statistical measures of group membership. Because the final classification is based on the statistical certainty of group membership in multivariate space, the result is the identification of robust “composition groups” reflecting distinct clay sources or production areas. Initial pattern recognition examined all elements available, while probabilities of group membership were based on $\log(10)$ values for the fifteen more precise elements (Ce, Co, Cr, Cs, Eu, Fe, Hf, La, Lu, Rb, Sc, Sm, Ta, Th, and Yb) with intermediate and long half-lives.

Within the sample of Late Bronze Age ceramics and clays, preliminary analyses of bivariate plots indicated a primary division of all samples into two main groups, based on the ratio of scandium (Sc) to iron (Fe) (fig. 71a). The high Sc:Fe group is referred to here as Group 1. A secondary separation of the low Sc:Fe samples based on the amount of Cr present (fig. 71b) indicates two further compositional groups; the higher Cr group is designated as Group 2, while the low Cr group is labeled Group 3. Ellipses indicate the 95 percent confidence interval for the bivariate group mean.

Group refinement utilized the Mahalanobis D^2 statistic confirmed the three preliminary groups and identified core-members with a strong probability of group membership based on jackknifed distance calculations. The distance measures also indicated a large number of ceramic samples without a strong probability of membership in any of these three groups. Final classification of non-core members utilized a combination of discriminant function analysis along with the multivariate distance statistic. Overall, 247 of the 287 samples (86%) could be assigned to one of the three main compositional groups (fig. 72).

The provenance of these compositional groups can be determined from compositional similarities to clay samples, and from the “criterion of relative abundance,” which argues that pottery was probably manufactured in the area where it is most abundant (Rice 1987: 177). Based on both these criteria, sherds in Group 2 can be linked to production sites along the southern flank (fig. 72). Petrographic analyses indicate that sherds assigned to Group 2 contained primarily lithoclasts characteristic of the recent volcanic formations of Mount Aragats, suggesting a general region of ceramic production on the south flank. More specifically, trace-element analyses confirm that clay samples from Magara Tepe near Tsaghkahovit and from Hnaberd show significant probabilities of group membership in this compositional group, although other good potting clays from the south flank (e.g., those from Kalachi Tepe near Tsaghkahovit and from Norashen) do not. Further, this composition group clearly dominates ceramic assemblages at Tsaghkahovit (78% of total), suggesting local production at or near that site.

Similarly, composition Group 3 can be linked to Gegharot on the north flank. Clays sampled from Gegharot show strong compositional similarities with Group 3, with multivariate probabilities of group membership ranging from 22 to 50 percent. A single petrographic sample from this group identifies a granite- and limestone-derived clay, associated with the Gegharot intrusion.

In contrast, the provenance of composition Group 1 remains uncertain. None of the clays sampled to date appears affiliated with this group; however, petrographic data indicate a mix of lithoclasts from ancient granites and recent andesites, a combination found to the west of Gegharot on the northern flank. A cross-tabulation of composition groups by site reveals that Group 1 is the numerically dominant group at Gegharot (representing 38% of ceramics analyzed from that site), although this group is not well represented at other sites. Based both on geology and on the criterion of relative abundance, Group 1 may represent another (and highly distinctive) clay source on the northern flank. Further sampling and analysis of clays from the western end of the depression are needed to resolve this issue.

Determination of element concentrations was based on direct comparison with three replicates of the standard reference material NIST1633A (coal fly ash); all data reductions were based on the NIST1633A element library utilized by the University of Missouri

Research Reactor for archaeological materials (Glascock 1992: 15, table 2.2). Samples of New Ohio Red Clay and NIST1633B (coal fly ash) were included as check standards.

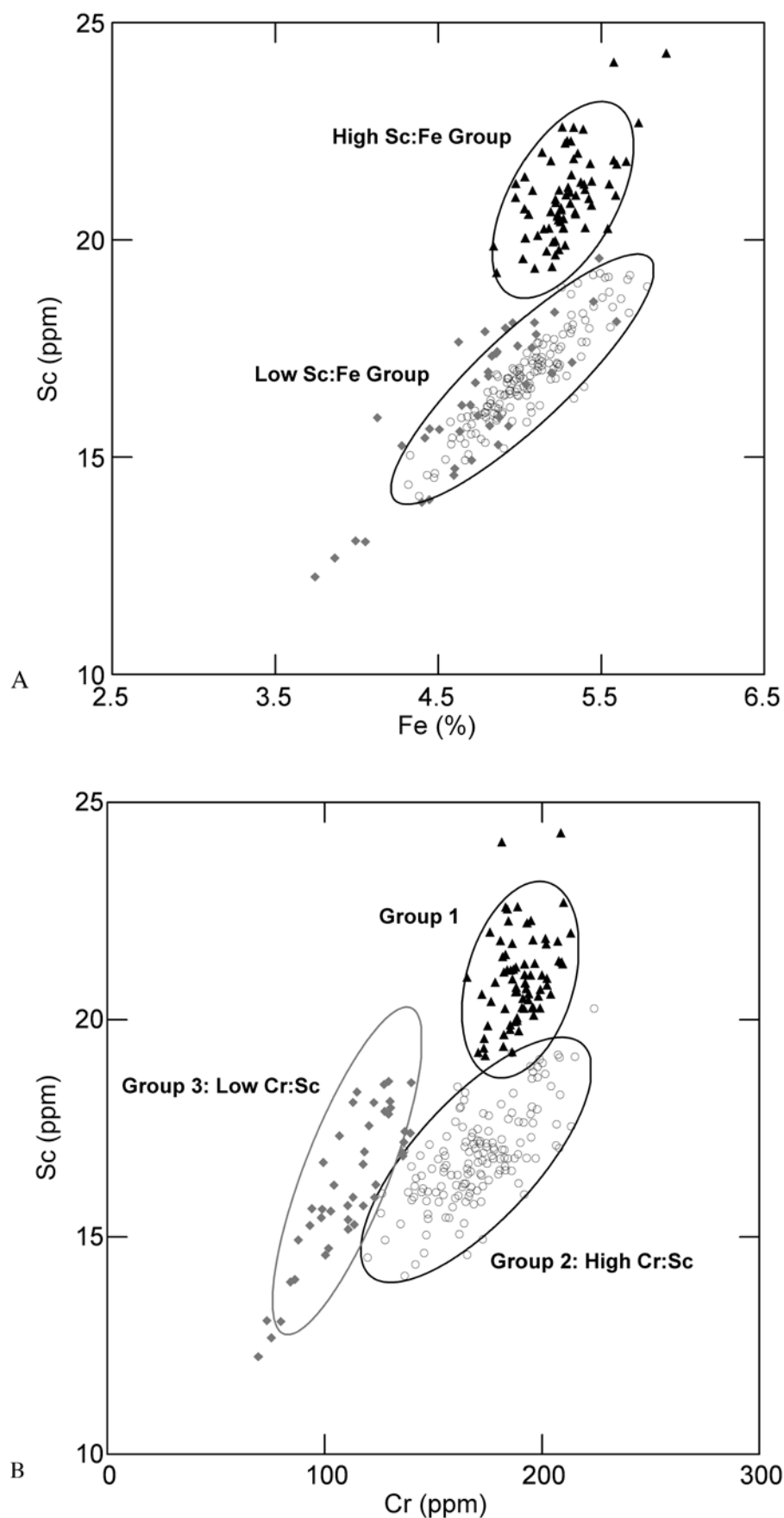


Figure 71. Preliminary Ceramic Composition Groups Based on Trace-metal Content.

- (a) Bivariate Plot of Sc Versus Fe: The Armenian Sample Separates into Two Major Groups, with the Higher Sc:Fe Group Labeled Group 1; (b) Bivariate Plot of Sc Versus Cr: Armenian Samples in the Lower Sc:Fe Group Further Subdivide Based on the Amount of Cr Present

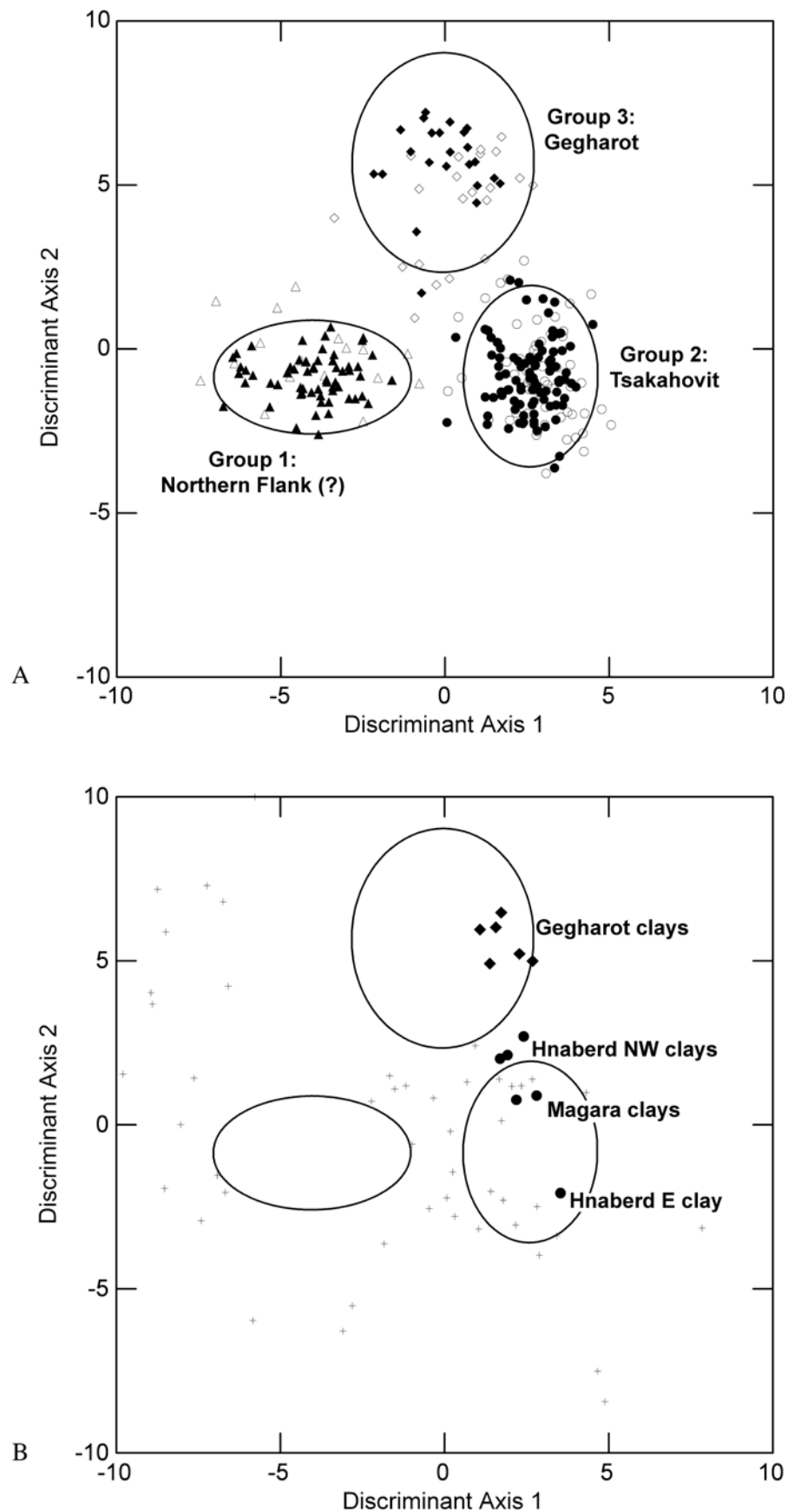


Figure 72. Separation of Final Composition Groups on Discriminant Function Axes.

(a) Separation of Final Groups. Core Group Members Are Designated with Solid Symbols, Non-core Members with Open Symbols; (b) Affiliation of Clays with Composition Groups. Ceramic Samples Not Affiliated with Any of the Three Composition Groups Are Indicated with a Plus Sign

In addition to these groupings, a significant number of samples were unassigned; many appear as outliers to the well-defined main groups. Included in this class are the samples whose petrography aligns them with metamorphic features of the Tsaghkunyats range, indicating that although this region produced ceramics, it does not appear to have been a major center of pottery production during the Late Bronze Age.

MONITORING CERAMIC EXCHANGE

It is clear from the compositional data that multiple regions (one on the southern flank, two on the northern flank) were active centers of ceramic production. Each of these regions produced similar percentages of fine wares (31–39%), although the high number of indeterminate wares may make this measure unreliable (table 5). Similarly, all regions produced a broad range of vessel types (table 6). These data suggest that different wares were widely produced within the study area, and that production of ceramic wares was not centralized nor was it highly controlled by developing political authorities.

Table 5. Distribution of Wares by Production Region*

<i>Ware</i>	<i>Group 1: North Flank(?)</i>	<i>Group 2: Tsaghkahovit</i>	<i>Group 3: Gegharot</i>	<i>Other</i>
Fine Wares	22 (31%)*	55 (39%)	11 (31%)	12 (30%)
Utilitarian Wares	39 (54%)	32 (23%)	15 (43%)	19 (48%)
Unclassed	11 (15%)	53 (38%)	9 (26%)	9 (22%)
TOTAL	72 (100%)	140 (100%)	35 (100%)	40 (100%)

* Percent of composition group total.

Table 6. Distribution of Vessel Forms by Production Region*

<i>Vessel Form</i>	<i>Group 1: North Flank(?)</i>	<i>Group 2: Tsaghkahovit</i>	<i>Group 3: Gegharot</i>	<i>Other</i>
Bowl	0 (0%)	7 (5%)	1 (3%)	0 (0%)
Jar, Fine	0 (0%)	7 (5%)	1 (3%)	0 (0%)
Jar, ?	2 (3%)	13 (9%)	1 (3%)	2 (5%)
Closed Jar, Fine	12 (17%)	21 (15%)	4 (11%)	5 (13%)
Closed Jar, Utilitarian	29 (40%)	21 (15%)	11 (31%)	11 (28%)
Closed Jar, ?	2 (3%)	12 (9%)	2 (6%)	4 (10%)
Jug, Fine	5 (7%)	9 (6%)	3 (8%)	4 (10%)
Jug, Utilitarian	3 (4%)	3 (2%)	1 (3%)	2 (5%)
Cup, Fine	2 (3%)	5 (4%)	0 (0%)	1 (2%)
Karas, Utilitarian	4 (5%)	3 (2%)	2 (6%)	1 (2%)
Other	13 (18%)	39 (28%)	9 (26%)	10 (25%)
TOTAL	72 (100%)	140 (100%)	35 (100%)	40 (100%)

* Percent of composition group total.

The lack of specialization among centers seems to argue for a high degree of self-sufficiency, in that each region produced the full complement of pottery types needed. Yet ceramic vessels (or their contents) were widely exchanged among communities in the Tsaghkahovit Plain; all sites contained a significant number of vessels produced outside their home region, suggesting participation in a regional exchange network.

The exchange, however, was not balanced between communities. Sites on the southern flank (Hnaberd and Tsaghkahovit) appear to have been net exporters of ceramics. They primarily used locally made ceramics (66–78% of site assemblage was produced on the southern flank) while trading their wares across the plain to Gegharot, where these ceramics constituted over 33 percent of that site's assemblage (table 7). Conversely, while Gegharot consumed a high percentage of ceramics made in other regions, it did not export ceramics in return: ceramics from Gegharot make up less than 13 percent of the vessels recovered from Tsaghkahovit, Hnaberd, and Mantash.

Table 7. Probable Source of Ceramics Recovered from Sites on the Tsaghkahovit Plain as Determined through Trace-element Analyses (by percent of site total)

Site	Ceramic Composition Groups				Site Total
	Group 1: North Flank(?)	Group 2: Tsaghkahovit	Group 3: Gegharot	Other	
Gegharot	61 (38%)	54 (34%)	27 (17%)	19 (12%)	161 (100%)
Aragatsiberd	2 (20%)	4 (40%)	1 (10%)	3 (30%)	10 (100%)
Tsaghkahovit	8 (13%)	49 (78%)	3 (5%)	3 (5%)	63 (100%)
Hnaberd	1 (2%)	31 (66%)	4 (9%)	11 (23%)	47 (100%)
Mantash	0 (0%)	2 (33%)	0 (0%)	4 (67%)	6 (100%)

At a regional level, then, the movement of ceramics appears to have been somewhat imbalanced, with a greater flow of vessels moving from sites on the southern flank into Gegharot than the reverse. The lack of reciprocity presented by the movement of ceramic containers and their contents is somewhat puzzling, but several alternative hypotheses can be raised.

On one hand, the unidirectional flow could represent the movement of goods through tribute rather than through trade. This might be the case if Gegharot dominated the political scene within the plain, such that goods flowed into Gegharot in exchange for political protection or to cement social connections. If Gegharot enjoyed a position of political dominance, however, its pre-eminence was not communicated through its ceramic wares, as there is no indication to date that Gegharot-made ceramics functioned as markers of elite status or higher political position. Rather, contextual information on ceramic use indicates that local ceramics dominated in both elite and non-elite assemblages at Tsaghkahovit, that is, from the fortress citadel (76%) and fortress terrace (79%), respectively, as well as in associated tombs (80%). The fortress citadel of Hnaberd contained an equal predominance of local ceramics (76%); ceramics from burials from Hnaberd represent a greater diversity of sources overall, but only a small minority (7%) were produced at Gegharot.

Alternatively, as suggested by Lindsay (2006: 283), Gegharot may have enjoyed special status, not as a higher-order political center, but as a ritual center. The Late Bronze Age shrine or temple complex (including a large altar, censer, and several large storage jars) on the upper terrace of Gegharot is so far unique in the region (Badalyan et al. 2005, forthcoming). If Gegharot presided over the plain as a cult center or holy place, it may well have received support from surrounding communities through tithes and gifts, a process that would bring bulk supplies (and their ceramic containers) into the center in a disproportionate flow.

A third, more commercial perspective argues that the apparently unbalanced trade in ceramics may in fact have been balanced with other, non-ceramic goods. If, for example, Gegharot dominated the production of a highly desired commodity, control over its availability could have stimulated an influx of other trade items in exchange. It is suggestive in this regard that the geological formations surrounding Gegharot feature important sources of copper ore, the raw material for bronze production. The commercial model for exchange interaction would suggest

the division of political authority among a number of polities of roughly equal standing and is consistent with the apparently equal status or value of their ceramics.

In summary, the compositional analysis of clays and ceramics from the Tsaghkahovit Plain has identified three chemically distinct compositional groups representing three distinct regions of ceramic production that were active within the study area. These include a southern flank source, linked to Hnaberd and Tsaghkahovit (compositional Group 2); a northern flank source, associated with Gegharot (compositional Group 3); and a compositional group probably originating on the northern flank (Group 1), but not affiliated with any clays sampled to date. All three production centers produced a range of fine, cooking, and utilitarian wares, and a variety of vessel forms, and no strong evidence of regional specialization was encountered.

Despite this local self-sufficiency in ceramic production, however, ceramic vessels and their contents moved readily among communities and regions, with greater than 25 percent of all vessels identified to source reaching their final destination through export. As a result, communities were linked by the shipment of ceramic vessels and presumably other goods in a regional network that cross-cut local and regional political divisions within the Tsaghkahovit Plain. Finally, although the underlying mechanism remains to be identified, this regional flow appears to have been significantly imbalanced, with a greater movement of ceramic vessels from south to north than was reciprocated from north to south. In particular, the enhanced flow toward Gegharot suggests a special role for that northern fortress site, but it remains to be determined whether that role was political, ritual, or economic.

CHAPTER 9

SHIFTING SOCIAL LANDSCAPES OF THE TSAGHKAHOVIT PLAIN

ADAM T. SMITH

In summer, it is hard to imagine a more beautiful setting than the Tsaghkahovit Plain as the melting snows of Mount Aragats sparkle above the lush green pastures of the alpine slope. During the Soviet era, the town of Tsaghkahovit was the administrative center of an eponymous *raion* and thus it has the obligatory cinema, hotel, stop light, and apartment buildings that materially transformed it from a small village to a town capable of carrying out administrative functions within the political structure of the U.S.S.R. Today, Tsaghkahovit is part of the Aragatsotn *marz*, whose center lies 40 km to the south in the city of Ashtarak. The dilapidated buildings of Tsaghkahovit's town center bear the unmistakable marks of its demotion in status and of the hardships that the rural South Caucasus as a whole have endured over the last fifteen years. The cinema and stop light no longer work and the hotel has been rededicated as an apartment block. Few new constructions have gone up in town since we started working in 1998 — a new house here, a small shed there — but many Soviet-era buildings have been slowly picked apart. Their concrete frames still stand, arching across empty overgrown lots like the desiccated rib cage of a now-deceased body politic. Similarly decomposed structures can be found in most of the region's villages, an archaeological record of the present tumultuous times.

Project ArAGATS' regional investigations in the Tsaghkahovit Plain, like all archaeological surveys, rely upon the now-canonical conceit that epochal shifts in social life provoke, and are provoked by, equally broad transformations in the physical landscape — alterations visible not only underground, but on the surface as well. As regimes crumble, economies founder, and social worlds unravel, towns are abandoned, waters defy canals, and tombs repudiate old traditions. Few eras in the plain's deep history have witnessed the kind of social transformations now ongoing in the South Caucasus and indeed the modern landscape bears the scars. Yet the transformations now altering the region's landscape etch themselves into rock and soil that has already been thoroughly made and remade.

INITIAL PEOPLING

Evidence for the initial human occupation of the Tsaghkahovit Plain is at present rather frustratingly vague. In addition to the well-known Paleolithic sites on the slopes of Mount Arteni (such as Satani Dar), occasional finds of Paleolithic bifaces and blades have been reported in the adjacent Shirak Plain (e.g., Horom, Shirakavan) and in the Kasakh River valley. Yet no remains of this era have yet been documented in the Tsaghkahovit Plain, despite the efforts of both Project ArAGATS' systematic survey and a non-systematic survey of the paleo-Kasakh headwaters conducted in 2005–06 by Gasparian and Chataigner.

The latter investigation did, however, succeed in locating what remains at present the earliest evidence of human settlement in the Tsaghkahovit Plain (pl. 60). Two lithic scatters, one on the outskirts of the modern village of Gegharot (Ar/Ge.00.02) and one just south of modern Tsaghkahovit (Ar/Ts.00.01), suggest an extensive, if not particularly intensive, human occupation of the plain sometime during the pre-pottery Neolithic. Unfortunately, it appears that neither site provides stratigraphic context for the surface finds, perhaps suggesting that initial forays into the area were rather brief, with little commitment to long-term settled occupation.

VILLAGES OF THE EARLY BRONZE AGE

It is only toward the middle of the fourth millennium B.C. that permanent communities appear to have taken root in the Tsaghkahovit Plain. Four places in the region were found to have considerable evidence of Early Bronze Age occupation (pl. 61): Tsilkar Settlement 1 (Ar/Tl), Gegharot Fortress (Ar/Ge), Aragatsiberd Fortress (Ar/AB),

and Tsaghkahovit Fortress (Ar/Ts). (A single Kura-Araxes sherd was also recovered on the surface of Sahakaberd Burial Cluster 26 [Ar/Sk.349.07].) Surface remains from all four sites indicate the strong representation of Karnut-Shengavit group ceramics, suggesting that these communities flourished sometime during the early third millennium B.C. — findings confirmed by radiocarbon determinations provided by our continuing excavations at Gegharot (Badalyan et al. forthcoming). But surface materials also provided tell-tale signs of an earlier Early Bronze Age occupation with several sherds from Gegharot and Aragatsiberd bearing characteristics more closely associated with Elar-Aragats ceramic styles. These impressions were confirmed at Gegharot, where the 2006 field season yielded quite definitive evidence that the initial occupation of the site began on the summit of the hill sometime in the last quarter of the fourth millennium B.C. However, it remains uncertain as to whether this initial Early Bronze community developed alone or was part of a wider migration onto the Tsaghkahovit Plain. Test excavations conducted in 2006 at Aragatsiberd may suggest a contemporary Elar-Aragats settlement there as well, but it is as yet too soon to tell.

By the early third millennium B.C. it appears that new settlements had been founded in the region on the lower flanks of Tsaghkahovit Fortress (Kalachi Tepe) and to the northwest of Gegharot at Tsilkar Settlement. While no Early Bronze Age surface architecture was visible at any of these sites, it does appear from the limited distribution of surface remains that most of these villages would have been quite small. At Tsaghkahovit, Early Bronze Age surface materials were recovered from a rather limited area below the northwestern slope of the hill; at Aragatsiberd, Kura-Araxes surface materials were found exclusively on the summit (although this likely has a great deal to do with the construction of a large antenna at the site); and at Tsilkar Settlement, Early Bronze Age surface materials appeared in a small area, eroding out of the scarp of a small wash. In contrast, at Gegharot, Kura-Araxes materials were not only found in significant densities at the top of the hill, but also below its western flank where construction activities and erosion had exposed several Early Bronze Age tombs and settlement walls. At its height, the village at Gegharot occupied no less than 2.1 ha of the lower slope and hilltop (no evidence has yet been found of an occupation on the slope itself).

Two issues of particular consequence emerge from the Early Bronze Age survey results. First, it appears that village communities, some quite large, inhabited a high-elevation plain early in the Early Bronze Age. This is quite surprising given Kushnareva's (1997) suggestion that the dynamics of the Early Bronze Age hinged upon an initial emergence of the Kura-Araxes in low-elevation valleys (such as the Ararat Plain) and their slow migration into higher-elevation environments as an increasingly arid climate forced herds onto upper mountain slopes. Kushnareva's was an elegant hypothesis in that it set the scene for the ultimate abandonment of Kura-Araxes villages at the end of the Early Bronze Age in favor of highly nomadic Middle Bronze Age herding communities. But the results of Project ArAGATS have clearly undermined the basic contention that Early Bronze Age villages sprang up at high elevations only late in the sequence in response to climatic stress elsewhere. This is clearly not the case, as Gegharot and its peers on the Tsaghkahovit Plain attest. So we are left searching for a different model of Kura-Araxes regional dynamics since it does not appear that elevation is a vector of great significance.

What appears to be of greater import in the Tsaghkahovit Plain are the Kasakh River headwaters. Given that all four of the Early Bronze Age sites documented by our survey cluster toward the eastern edge of the plain (and that no peer sites were found to the west), it is hard not to implicate the Kasakh River in the initial arrival and spread of Kura-Araxes communities in the region, either as a critical resource for agricultural production or simply a convenient path for movements into and out of the region. Indeed, the absence of Early Bronze Age settlement across 20 km of the northern slope of Mount Aragats, from Tsaghkahovit to the sites of Harich and Anushavan in the southeastern corner of the Shirak Plain, is quite conspicuous. Interestingly, both Harich and Anushavan are located on the upper reaches of the Jamushdjur River, a tributary of the Akhourian. If we take the rivers as the centers of gravity for Kura-Araxes villages, as opposed to simple elevation, we emerge with a dendritic sense of the Early Bronze Age regional landscape rather than an axial one. That is, instead of being defined by the simple verticality of elevation above sea level, the landscape was likely a more complex one that moved along and across riverine networks. Needless to say, such a reconstruction calls out for comparative survey data sets from other regions.

Yet while these simple locational observations provide a sense of the pathways along which Kura-Araxes villages arose and spread, they do not provide an account of the social forces that drove the emergence and spread of Kura-Araxes villages. Continuing excavations at Gegharot (Badalyan et al. forthcoming) promise to shed further light on these critical issues.

THE FIRST “INTERMEDIATE” PERIOD: THE MIDDLE BRONZE AGE

There is at present no unambiguous evidence that the Tsaghkahovit Plain hosted human occupation during most of the Middle Bronze Age. Archaeological detection of Middle Bronze Age habitation sites is a serious problem throughout most of the South Caucasus, as noted in *Chapter 3*. Thus, the most ubiquitous Middle Bronze Age archaeological marker in the South Caucasus is the kurgan. Yet while kurgans are the most distinctive features of Middle Bronze construction, they are not exclusive to that era, with kurgan burials known to continue into the Late Bronze Age. Thus while it is worthwhile discussing the distribution of kurgans across the Tsaghkahovit Plain (pl. 62), we must do so with two caveats in mind: a) they are not an unambiguous temporal marker of the Middle Bronze Age; and b) given that the kurgan perdures as a feature of regional mortuary landscapes for over a millennium, we must be careful not to compress these features into a single historical episode. The single kurgan excavated by Project ArAGATS below Gegharot Fortress (in Ar/GK.01.01) illustrates both of these concerns (see Badalyan et al. forthcoming). The kurgan's central chamber dated to the beginning of the Late Bronze, but a second chamber under the tumulus had been built at the very the end of the Middle Bronze Age, and yet a third, intrusive, tomb had been cut into the mound during the Iron Age. That said, because the kurgan constitutes a unique form of mortuary architecture, its distribution is worth some consideration.

The ArAGATS survey recorded sixteen places with one or more kurgans. Two of these were isolated tumuli (Aparan Isolated Burial 2, Mantash Isolated Burial 5) while fourteen were clearly identifiable kurgans within larger clusters of mortuary constructions.⁶⁹ In contrast to the Early Bronze Age sites, kurgans are well distributed across the Tsaghkahovit Plain, although they do appear to cluster more closely to immediate drainages, this is not a hard and fast rule given those recorded in the marshy areas east of Tsaghkahovit Fortress.

The results of Project ArAGATS' survey do nothing to contradict current understandings of the Middle Bronze Age as an era of intense and widespread nomadism. Indeed, the intensive techniques of pedestrian survey employed by our investigations place such interpretations on firmer ground. By diminishing the likelihood that the perceived decline in settled villages during the late second and early first millennia B.C. is an artifact of bias in site discovery, we now have a more solid foundation for positing an epochal shift toward increased community mobility throughout the Middle Bronze Age. It is important to point out that the widespread abandonment of settled communities in the South Caucasus during the late third and early second millennia B.C. does not mean that no settlements existed in the Middle Bronze Age. As recent investigations by Harutyunyan and Badalyan (in press) at Geghakar, a site near the southern shore of Lake Sevan, make clear, some small settlements do appear to have been constructed during the Middle Bronze Age (see also the results of Stephan Kroll's survey in the Sisian region⁷⁰) and Metsamor may well have endured throughout the era as a town of substantial size. However, these rather isolated cases, when compared with the dense map of late Kura-Araxes settlements, merely reinforce the overall sense of wide-scale shifts in settlement toward more mobile ways of life.

THE RISE OF COMPLEX POLITIES: THE LATE BRONZE AGE

The explosion in the quantity and diversity of settlements and burial clusters in the Tsaghkahovit Plain dating to the Late Bronze Age speaks to a significant demographic shift which brought sizable new populations into the previously only lightly inhabited region (pl. 63). The far more robust data sets available to us from the Late Bronze Age allow us to utilize the ArAGATS survey results to probe a series of key issues related to the initial emergence of complex polities in the South Caucasus as a whole.

FORTRESSES AND POLITICAL SOVEREIGNTY

The most fundamental question that our regional investigations were designed to tackle concerned the nature of sovereignty in the region. How was the regional geopolitical landscape ordered (Smith 2003)? Was each fortress effectively an independent polity, sustained by the agricultural and pastoral resources of its hinterland? Or were political communities organized among several interlinked fortresses that together ruled larger regions?

⁶⁹ Aparan Burial Cluster 2; Gegharot Burial Cluster 11; Gegharot Kurgans Burial Clusters 1 and 2; Hnaberd Burial Clusters 14 and 20; Mantash Burial Clusters 2, 20, 34, and 37; Tsaghkahovit Burial Clusters 9, 22, 62, and 85.

⁷⁰ <http://www.vaa.fak12.uni-muenchen.de/Armenia/2000/Armenia-2000-Eng.html>.

Surface ceramics, fortification architecture, and, in some cases, excavations bolstered by radiocarbon determinations indicate that at least ten and possibly as many as twelve fortresses were constructed in the foothills surrounding the plain during the Late Bronze Age.⁷¹ Furthermore, the excavations of mortuary features conducted to date have revealed interments contemporaneous with the entire occupation sequence documented at the Late Bronze Age fortresses. The close temporal synchronization of settlement across the plain during the mid-second millennium B.C. provides one indication that the Tsaghkahovit Plain might have been more broadly integrated as a coherent sociopolitical community than we had originally thought (Smith 1996: 147). If the plain was fragmented among various communities, it would be unusual, though by no means unprecedented, for the rhythms of settlement to so neatly coincide. Conversely, if several fortresses were integrated as part of a single overarching sociopolitical community, then we would expect their occupational sequences to reflect their entwined histories.

The distribution of Late Bronze Age burial clusters in the region provides a second intriguing clue as to the nature of regional sovereignty. The ArAGATS survey identified a total of 199 burial clusters with mortuary features broadly describable as typical of the Late Bronze Age, 180 of which were located on the northern slope of Mount Aragats, an overall density of 2.05 cemeteries per square km.⁷² Although, as noted in *Chapter 5*, a complete census of the total number of burials is not feasible, a conservative estimate of thirty cromlechs per cemetery yields a total of 5,400 burials on the slope of Mount Aragats and 5,970 Late Bronze burials surrounding the Tsaghkahovit Plain in total.⁷³ Given that Late Bronze Age burials in southern Caucasia tend to include between one and three individuals (single interments are the most common), we can conservatively estimate that the regional population of the interred likely fell somewhere between 8,000 and 15,000, spread across approximately 300 years, or some twelve generations.⁷⁴

In terms of regional sovereignty, the most compelling feature of the Late Bronze Age burial clusters is their spatial distribution. While the cemeteries are tightly packed within the central 30 square km of the north Aragats slope, extending in an east–west line from approximately 0.5 km west of Hnaberd Fortress to 3.0 km east of Tsaghkahovit Fortress, they virtually disappear beyond these limits. West of Hnaberd Fortress, this hiatus in mortuary architecture persists up to the eastern bank of Mantash Gorge; east of Tsaghkahovit Fortress, the hiatus extends southwest into the Kasakh River valley.

The unexpectedly crisp boundaries of cromlech cemetery construction combined with the current evidence for a chronologically compact explosion in regional occupation during the Late Bronze Age hint at a broader scale of sociopolitical integration than previously suspected. It seems quite plausible that the extent of the mortuary landscape on the north Aragats slope reflects social boundaries established during the Late Bronze Age that were indexed to the spatial extent of sovereignty in the region (cf. discussions of social boundaries in Stark 1998). That is, it appears that the distribution of burial clusters was limited in such a way as to distinguish the north Aragats necropoleis from those on the southwestern Shirak Plain (a mortuary landscape that extends west from Mantash Gorge to encompass Harich, Artik, and Horom) and in the middle Kasakh River valley (particularly the area around Aparan and Kuchak). Given the evidence from the Tsaghkahovit Plain (and indeed across the South Caucasus) of considerable political conflict in the Late Bronze Age, it seems reasonable to posit that the distribution of burials may well have been a result of an emerging sense of frontiers conditioned by claims to regional sovereignty radiating from authoritative fortified settlements such as Tsaghkahovit or Hnaberd.

While the eastern and western thresholds of a putative Tsaghkahovit unified polity governing the north slope of Mount Aragats emerge from the distribution of burial clusters, the extent to which sovereignty extended across the plain to the Pambak foothills is less clear. There were no remains on Mount Vardablur and only limited finds in the Kolgat, Vardablur, and Jarjaris quadrants that might have allowed us to articulate the north side of the plain with the south. However, the distribution of fortified sites above Gegharot may give us further grounds for positing a single, cohesive sovereign polity in the Tsaghkahovit Plain during the Late Bronze Age.

⁷¹ Evidence for Late Bronze Age occupations at Lernapar and Gekhadzor is particularly weak at present.

⁷² Seventeen were recorded in the Gegharot quadrant and two in the Lernapar quadrant. The density of burial clusters solely on the slope of Mount Aragats is 2.94 clusters per square km.

⁷³ These final determinations supersede estimates contained in our previous preliminary reports and reflect the final totals for the survey.

⁷⁴ More liberal estimates push the total population of the Late Bronze Age burial clusters in the region up to 20,000 individuals. But it should be noted that all such efforts to estimate prehistoric populations are predicated on a large number of assumptions and should not be utilized for anything other than broad comparisons of relative densities.

Looming above Gegharot, perched atop several high peaks of the Pambak foothills, our survey recorded four small fortresses — Berdidosh, Tsilkar (Top Kar), Ashot-Yerkat, and Poloz-Sar — that appear to serve primarily, if not exclusively, as outlooks guarding the main passes from the north.⁷⁵ These sites are quite small and their remote locations suggest that they served as frontier sites, projecting authority into the hinterlands and defending circulation routes, rather than as hubs of regional administration.

The unique nature of the Pambak group of fortified outposts suggests two possible models of sovereignty for the Tsaghkahovit Plain region during the Late Bronze Age. The first describes Berdidosh, Tsilkar, Ashot-Yerkat, and Poloz-Sar as part of a northeast Tsaghkahovit polity, centered at Gegharot and autonomous from, perhaps in conflict with, the southern polity that unified the slope of Mount Aragats. In support of this reconstruction we can note that the cromlech cemeteries on the Pambak slopes are tightly clustered around Gegharot and do not extend southwest toward Tsaghkahovit. This interpretation would require that we describe the Late Bronze Age fortress at Aragatsiberd as a border post between rival polities, an interpretation supported by the lack of burial clusters around the site that might indicate a more enduring commitment than simple geopolitical necessity.

A second model of Late Bronze Age sovereignty takes the entire Tsaghkahovit Plain as a single sociopolitical community with interlinked major centers at Hnaberd, Tsaghkahovit, and Gegharot. This model can muster support from the results of the INAA research reported by Minc in *Chapter 8*, which identified a significant asymmetric flow of ceramics across the plain. It also seems somewhat more plausible that the numerous outpost fortresses in the Pambak hills were not simply defending the single center at Gegharot, but rather oversaw threats to the plain as a whole coming from the north. This model would interpret Aragatsiberd as the southeastern anchor of a chain of frontier posts that extended northwest to Berdidosh.

At present we do not have sufficient evidence to adjudicate definitively between these rival models. However, these reconstructions do suggest that, as early as the Late Bronze Age, multi-centered polities able to rule large territories and patrol political frontiers had already arisen in southern Caucasia.

INEQUALITY AND INSTITUTIONAL ORDER

The progress made in modeling the extent of sovereignty during the Late Bronze Age forces us to consider the much more difficult problem of the constitution of political regimes on the Tsaghkahovit Plain. If the signal transformation from the Middle to Late Bronze Age sociopolitical communities lies in the increasing formalization of social inequalities, then what were the sources of elite power and the structure of governmental institutions? What could have made such regularization legitimate? During the Late Bronze Age, the ostentatious displays of social inequality known from the grand kurgans, such as those at Trialeti, moderate considerably. This is not to suggest that social inequality diminished. Quite the contrary, the demands made by rulers quartered in fortified settlements likely intensified the social distance between elites and subjects. However, the expression of this distance in mortuary contexts took on less outwardly demonstrative forms, suggesting that the legitimacy of rule no longer rested as heavily on conspicuous displays of wealth, but rather had been regularized into an enduring institutional order.

A fuller account of the institutional order of Late Bronze Age regimes on the Tsaghkahovit Plain must await the completion of our excavations. But Project ArAGATS has already published in its preliminary reports sufficient details of its findings to allow for a brief sketch here. This discussion should thus be taken less as a set of conclusions derived from the ArAGATS survey and more as foreshadowing the results to be reported in our next volume.

Excavations at both Gegharot and Tsaghkahovit Fortresses have yielded intriguing glimpses of Late Bronze Age institutions. For example, excavations at Tsaghkahovit have recovered evidence of concentrated storage facilities on the site's terraces; but it was the discovery of a single 25 m long, well-carpentered stone masonry wall on the citadel that initially stimulated our investigations into Late Bronze Age institutions. This wall was clearly a critical location of authority in the region; unfortunately, subsequent Iron III construction destroyed much of the building and dug into its floors, diminishing our understanding of the role that the building played in the life of the fortress. In contrast, Gegharot has proved to be considerably better preserved (thanks to a series of destruction events) and as a result considerably more informative. For example, a large, well-preserved Late Bronze Age shrine packed

⁷⁵ Aragatsiberd is similarly positioned to guard a major pass, but its larger size and position below the upper Pambak ridgeline suggest that it should be considered more a peer to Gegharot and Tsaghkahovit than to Poloz-Sar and Berdidosh.

with a vast ceramic inventory ranging from censers to large storage jars was excavated at the site between 2003 and 2005. While this discovery, along with a similar find at Metsamor (Khanzadian, Mkrtchian, and Parsamian 1973) has clearly established the presence of religious institutions within Late Bronze Age fortresses, it has also complicated simple functional classifications by emphasizing the deep integration of religious practice with the region's political economy.

The considerable evidence at Gegharot for metalworking has further emphasized that Late Bronze Age fortresses were not simply collection depots for an aggrandizing elite, but were also key nodes within a broader network of production and exchange. Given that the majority of metalworking implements from Gegharot appear to relate to the production of jewelry rather than weaponry or tools, it is quite possible that metal production at the site was less a part of a commodity economy than a network of political reciprocity and dependency in which objects of exchange served to mediate regional geopolitics. Lastly, it is important to point out that both Gegharot and Tsaghkahovit were destroyed in contemporaneous conflagrations at the end of the Bronze Age. Not only does this regional catastrophe speak once again to the closely coordinated rhythms of settlement and abandonment across the entire plain, it also reminds us of the pervasive militarism of the era, the enduring significance of political violence, and the potency of the military institution that wielded it. The institutions that crystallized within the fortified centers of the Tsaghkahovit Plain during the Late Bronze Age were tightly woven into a single apparatus of rule. In this sense, as noted elsewhere (Smith and Thompson 2004), the early complex polities of Late Bronze Age southern Caucasia closely resemble the Urartian regime that would ultimately conquer much of the region.

MOBILITY AND SUBJECTIVITY

One pivotal question remains that the ArAGATS survey was in large measure designed to address. Given the ample populations represented in the burials and the extensive institutional apparatus in evidence at the region's major fortified sites, where were all the subjects of this emergent complex society? There are two possible answers to this question and they are by no means mutually exclusive. The first is that Late Bronze Age communities were largely constructed in the shadows of the fortresses, in areas that, at least at Hnaberd and Tsaghkahovit, were later covered by Iron III occupations. This is Lindsay's (2006) suggestion based on the remarkable results of his work below the south slope of Tsaghkahovit. But the scale of these Late Bronze Age "lower towns" does not as yet adequately represent the large populations visible in the endless cromlech cemeteries.

Thus a second possibility is that significant segments of Late Bronze Age communities retained the highly mobile lifeways of the Middle Bronze Age. This hypothesis is based only on negative evidence at present. The failure of the ArAGATS survey to record a single unfortified Late Bronze Age village is striking. It is of course possible that such communities were once set on the plain proper, close to the best agricultural land. Yet the minimal settlement features visible in the pre-amelioration-era aerial photographs argues quite strongly that this is unlikely to have been the case. According to this model, with the dawn of the Late Bronze Age figures central to key emergent institutions began to precipitate out of the highly mobile communities of the Middle Bronze Age. Yet even as they did so, the remainder of the population quite possibly continued the more nomadic traditions that had persisted in the region for almost a millennium.

This reconstruction does carry one critical corollary argument. A settled set of emergent ruling institutions striving to exert and legitimize their authority would have undoubtedly found mobile subjects frustratingly difficult to rule. As Russian imperial administrators learned in Siberia, it can be quite hard to levy taxes or extort labor from nomads and transhumant communities that prefer to move along rather than pay up. Perhaps it is here that we can locate the articulation of social practices of mortuary ritual and political practices of rule. One way to regularize one's authority over mobile communities is to make sure that they return to the same place in a predictable cycle. What better way to do so than to forge an account of the numinous that encourages the promulgation of burial clusters within the circumscribed boundaries of the polity? Thus, because regular rituals to the departed must be performed, ruling authorities can be assured that their *subjects*, no matter how mobile, will return to *be subject to* the dictates of the authority which rules over the worlds of both the living and the dead. Should further support for this model be forthcoming, it would certainly provide further support for the clichéd link between death and taxes.

THE SECOND “INTERMEDIATE” PERIOD: THE IRON I–II PERIODS

There is very little evidence for human occupation on the Tsaghkahovit Plain during either the Iron I or II periods. Because of the strong continuity in ceramics and mortuary architecture between the Late Bronze Age and Iron I period, most of the burial clusters reported in the survey are classified as “Late Bronze/Iron I.” However, while clear evidence has emerged from excavations to date settlement occupations and burials in the region to the Late Bronze Age, little has been found to suggest that this presence continued into the Iron I period. Indeed, the evidence of destruction episodes at Gegharot and Tsaghkahovit at the end of the Late Bronze Age contributes further to a sense that the region was abandoned before the beginning of the Iron I period. The one exception to this rule is the single kurgan excavated in Mantash Burial Cluster 8 in 2000 (see *Chapter 6*).

Similarly, evidence for Iron II occupation in the region is fleeting and unpersuasive. The inscription of Argishti II at Spandarian, on the western gate of the plain, certainly testifies to activity in the area. Identifiable remains of the era initially appeared in a handful of polished red-slip sherds from Hnaberd and Tsaghkahovit that strongly echoed the so-called valley wares of Urartian sites on the Ararat Plain (Avetisyan and Avetisyan 2006). However, subsequent investigations have now clearly established that these materials are in fact part of the Iron III assemblages at the sites, strongly suggesting that the hiatus in occupation that began at the beginning of the Iron I period, continued through the Iron II era of Urartian imperialism.

SETTLEMENT RETURNS: THE IRON III PERIOD

During the Iron III period, robust occupations returned to the plain with clear occupations at five sites: Aragatsiberd, Gekhadzor, Hnaberd, Sahakaberd, Tsaghkahovit, and Tsilkar (pl. 64). Iron III occupations are also possible at Berdidosh, Gegharot, Lernapar, and Nigavan Settlement but the evidence at these sites is much weaker. At the same time, eighteen burial clusters included surface evidence of so-called cist burials that appear to be more closely associated with mid-first-millennium B.C. burial practices. However, it must be noted that this periodization too is rather weak, as no cist burials have yet been excavated in the region. By and large, at present the intensity of the mortuary landscape of the Iron III period does not correspond to the density of settlement, leaving open the question of burial practices in the region during the mid-first millennium B.C.

Khatchadourian’s recent dissertation (2008a) provides a highly detailed examination of the dynamics of Iron III settlement in the region, so this ground need not be covered here. However, it is worth noting the evidence for both a re-occupation of Late Bronze Age citadels (Hnaberd, Tsaghkahovit) and the establishment of towns both large (40 ha at Tsaghkahovit) and small (Hnaberd) as well as still smaller villages (Tsilkar). These settlement patterns indicate the complex legacy of Bronze Age settlement patterns as well as a conspicuous new set of relations between subjects and authorities that appears to de-emphasize the martialism so fundamental to Late Bronze Age lifeways:

Alongside fortified living, there is a movement of populations downward from summits, and outward from walled spaces. This pattern may be associated, among other factors, with changing strategies in the practice of nomadic pastoralism in relation to agricultural production, changes in population density, and shifting relations of authority between elites and subjects (Khatchadourian forthcoming).

This shift in both the practice and ideology of regional sociopolitics undoubtedly contributed to the very different history of Iron III settlement. In contrast to the destruction levels that cap most substantial Late Bronze Age occupations in the region, the Iron III habitations appear at present to have been simply abandoned. The timing of this abandonment is not entirely clear at present, but it does appear to have been completed by the third century B.C. at the latest.

TOWARD THE MODERN LANDSCAPE: FROM THE MEDIEVAL TO THE SOVIET ERA

With no remains clearly assignable to the Iron IV period, the next phase of occupation clearly visible in the ArAGATS survey dates to the medieval era (pl. 65). Unfortunately, at present the chronology of medieval settlement in the region is not well defined — few of the sites produced large surface collections and only excavations at Tsaghkahovit provided notable collections of medieval materials. That said, the era is well represented in the

Tsaghkahovit Plain with eight settlements that appear to boast medieval occupations based on surface materials and/or architecture. As noted in our 2002 report (Smith et al. 2004: 11), a single silver Ephtalit coin from the citadel at Tsaghkahovit suggests that the uppermost construction level there should be dated to the fifth–sixth centuries A.D. A far more substantial medieval settlement appears to have formed at Sahakaberd Settlement 1, a sprawling collection of well-preserved constructions that spreads across almost 30 ha, making it the third largest site in the region. Occupations at Gegharot Settlement, Gekhadzor Fortress, Hnaberd Settlement 1, Kolgat Settlement 1, Sahakaberd Fortress, and Sahakaberd Settlement 2 also appear to represent small medieval towns and villages, but a closer temporal definition of these habitations must await excavations. Of the four burial clusters thought from surface indications to include medieval interments — Mantash Burial Cluster 7, Sahakaberd Burial Cluster 12, Tsaghkahovit Burial Clusters 53 and 71 — only the last has yielded artifactual materials that allow for a closer dating. Surface materials collected by Project ArAGATS and four glazed bowls recovered in the mid-1990s by a Shirak Museum salvage project at the site indicate the burial cluster was in use during the ninth–tenth centuries A.D.

It is quite likely that by the beginning of the second millennium A.D., many elements of the modern settlement pattern had already emerged, including a village on the territory of the present-day town of Tsaghkahovit. Other villages in the region, most notably Gegharot, appear to have been settled only in the eighteenth and nineteenth centuries. But the existing built landscape is unmistakably Soviet. Today, the post-Soviet era has already made its own marks on the Tsaghkahovit Plain, as collective farms have yielded to privatized plots, a new field pattern clearly visible in the satellite images. But Soviet-era settlement patterns and architecture remain the dominant features of the landscape, changing slightly — almost imperceptibly — over the last decade and a half.

CONCLUSION

The regional investigations of Project ArAGATS were developed in order to provide a geographically intensive and temporally extensive view of the shifting social landscapes of a single region in the South Caucasus. Our goal was, like most archaeological surveys, to outline the shifting patterns of settlement and land use that imbed the region and its people in a deep historical narrative. Our hope was that in doing so, we would have in effect laid the foundation for a sustained, long-term research project that could not only shed new light on entrenched archaeological problems, but also open research space for posing new questions. As I write this conclusion, ten years after Project ArAGATS' first field season, it is quite heartening to see one dissertation (Lindsay 2006) complete and several more in process. These studies are posing a daunting array of original and provocative questions of the archaeological remains on the Tsaghkahovit Plain, from the processes of sociopolitical subjectification in the Iron III period, to the micro-practices of Late Bronze Age ceramic production, to the role of mortuary practice in constituting authority within complex polities. Most importantly, these projects are being developed by both American and Armenian scholars and are thus fostering new collaborative engagements that promise to enrich our understanding of regional (pre)history even as they provide new contributions to world archaeology. As the longest-lived international archaeological project in the Caucasus, Project ArAGATS will continue in the coming years to expand its thematic and historical foci and augment the empirical foundations for the systematic study of the region's past.

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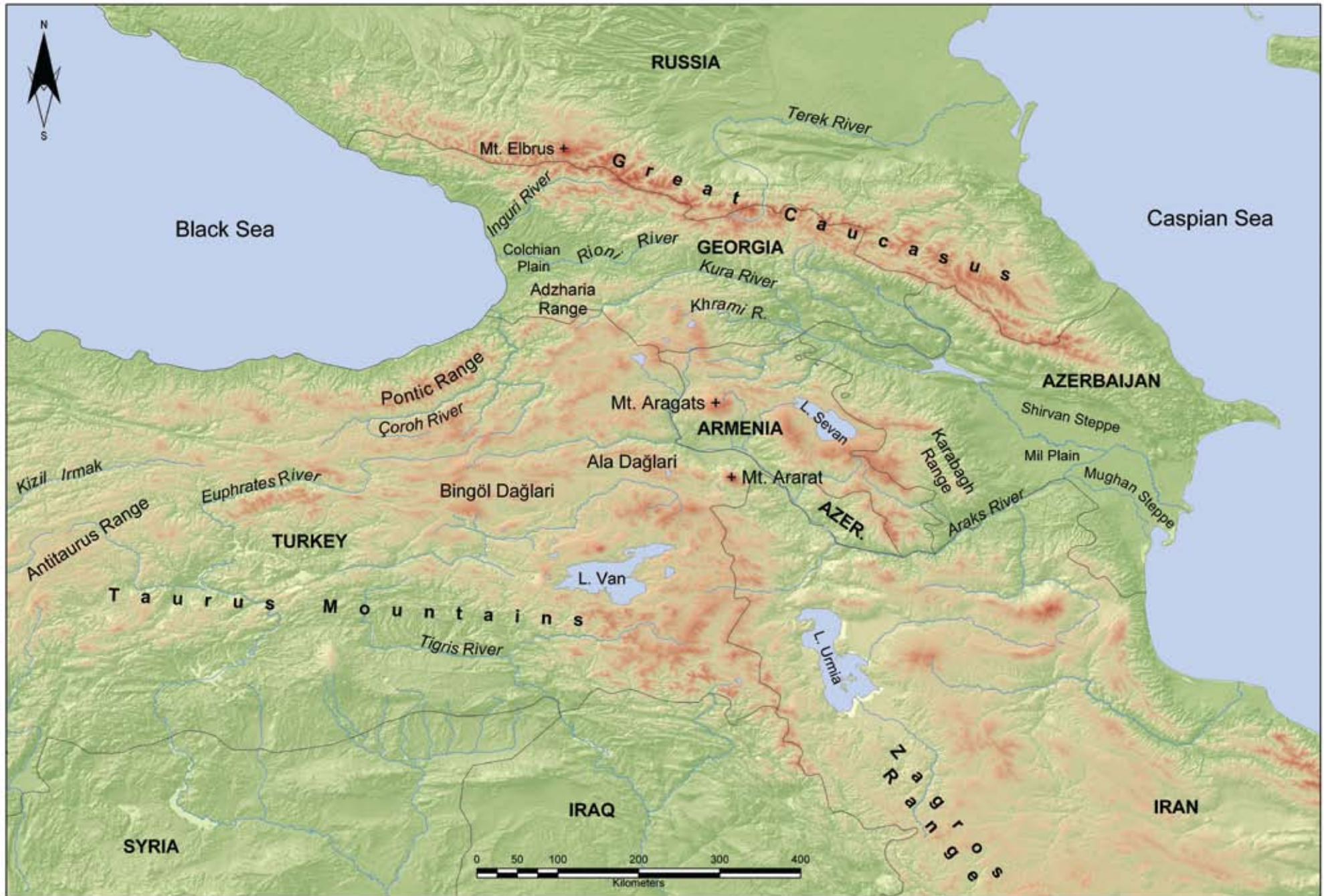
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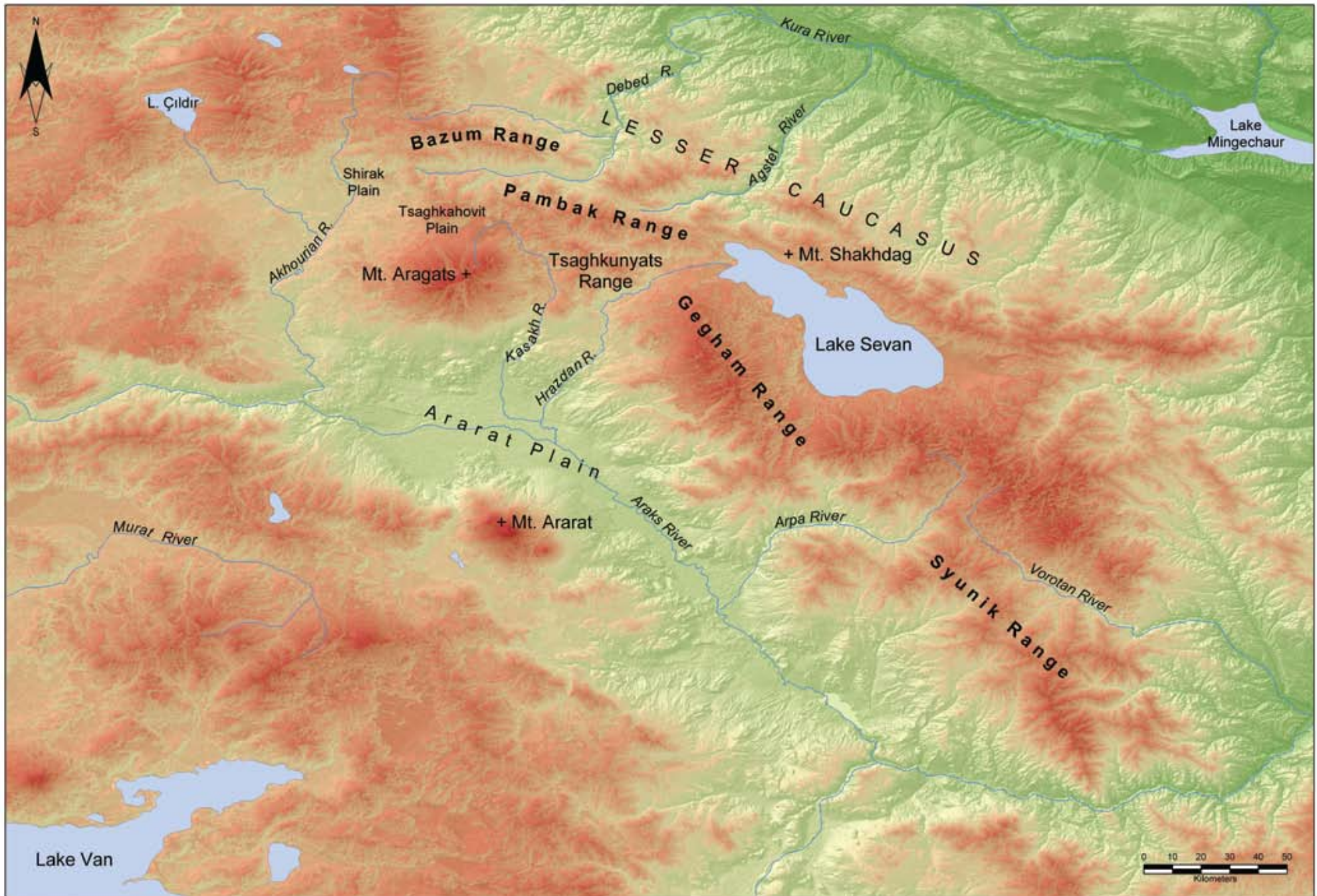
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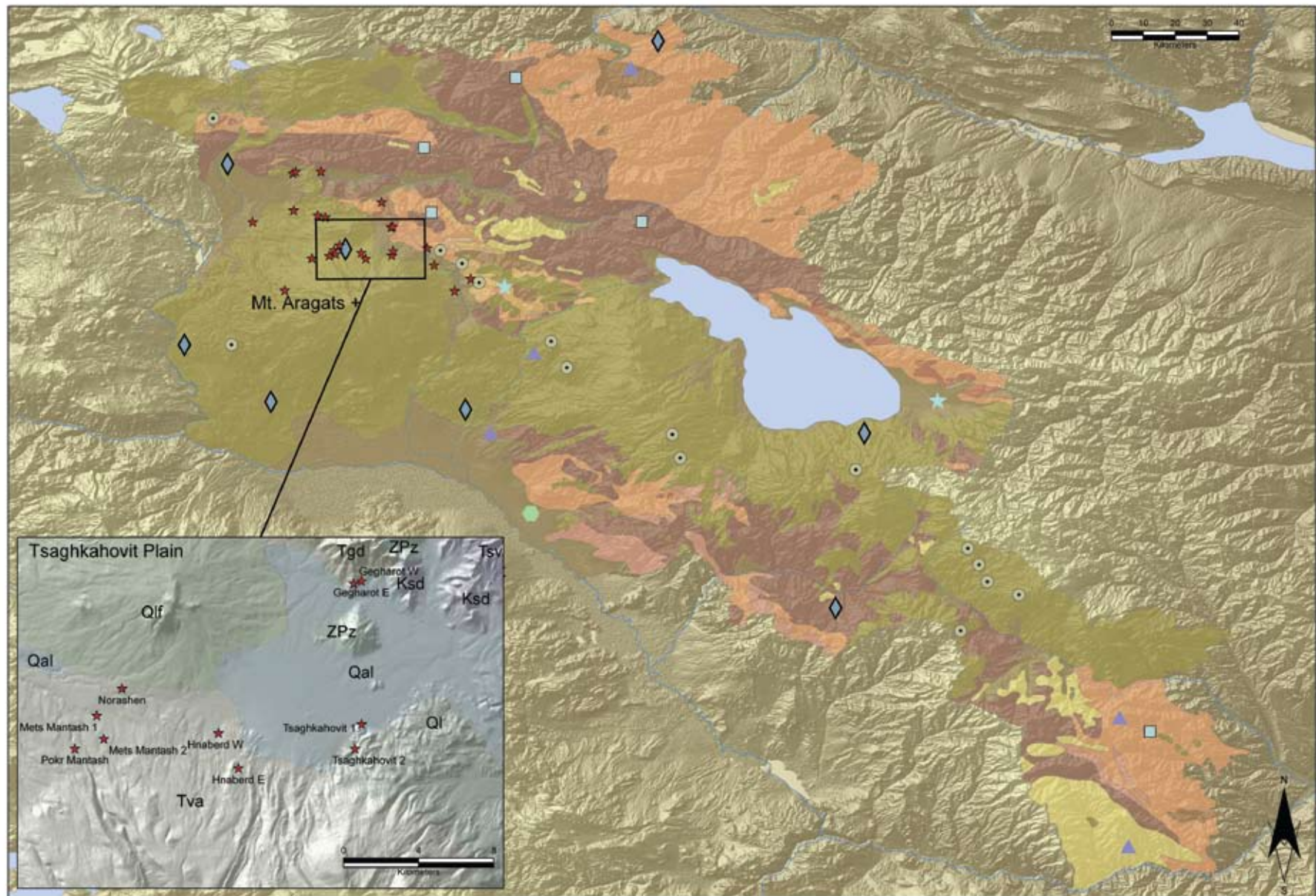
PLATES



Physical Map of Southwestern Eurasia. Data Source: SRTM. Created by Adam T. Smith



Physical Map of Southern Caucasia. Data Source: SRTM. Created by Adam T. Smith



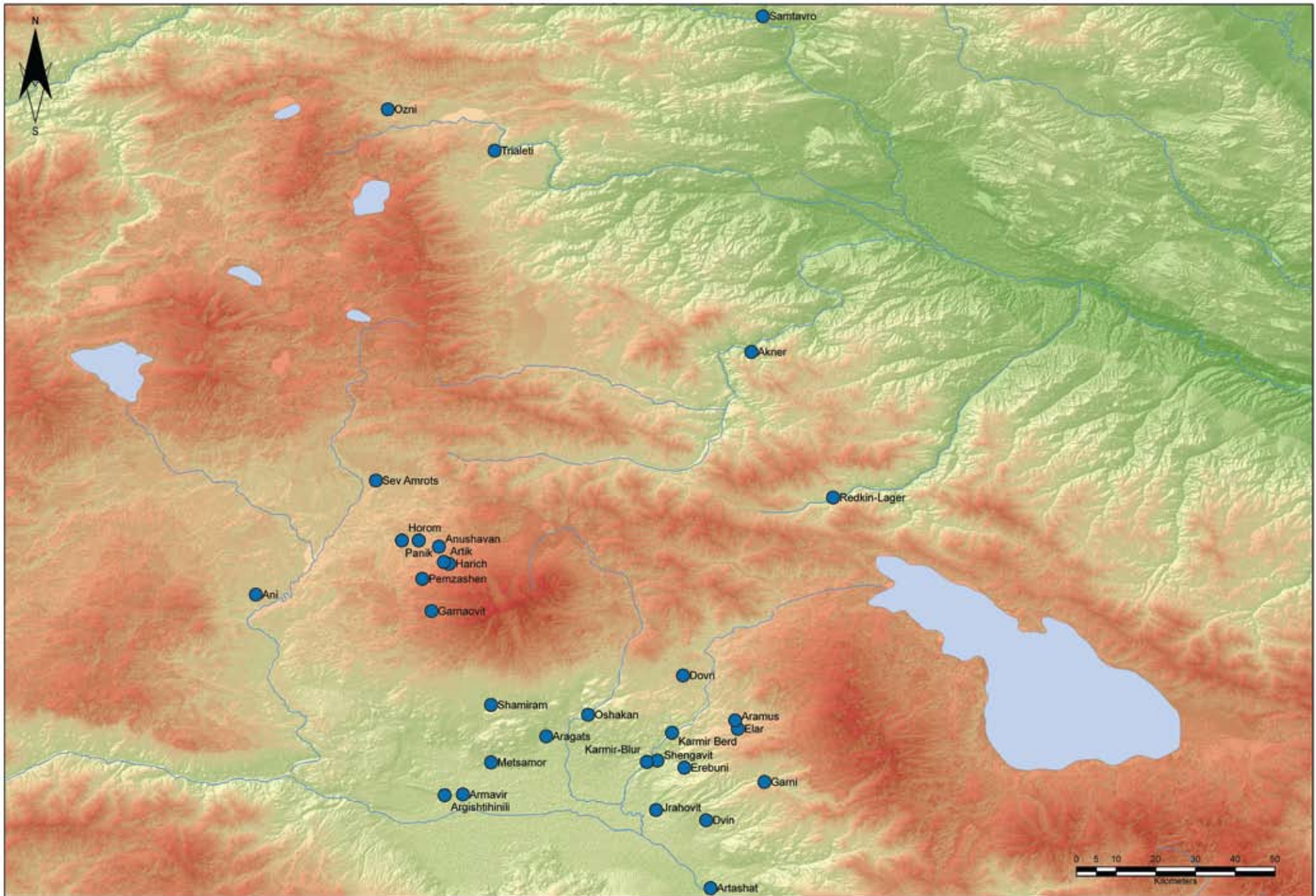
Legend

- ★ Sampled Clay Sources
- Copper
- ★ Gold
- ▲ Iron
- Marble
- Obsidian
- ◆ Tuff
- Cretaceous dunites, gabbros
- Cretaceous peridotites, herzolites, peridotites
- Quaternary lake, alluvial and fluvio-glacial sediments
- Proterozoic metavolcanic and granitic intrusions
- Proterozoic metamorphic schists, gneiss, phyllites, marbles
- Paleozoic Limestones, sandstones, clays, quartzites, schists
- Eocene, Oligocene and miocene granites, diorites, monzonites, syenites
- Jurassic (Middle and Late) and Cretaceous sandstones, clays, conglomerates, limestones, metamorphic schists
- Jurassic (Middle and Late) and Cretaceous volcanic pyroclastic breccias, basalts and andesite basalts, tuffs
- Neogenic and Quaternary basalts, andesites, dacites, volcanic breccias, pyroclasts, obsidians, perlites, ignimbrites
- Paleogenic limestones, sandstones, clays, andesites, andesitic basalts, dacites, tuffs, tuff conglomerates

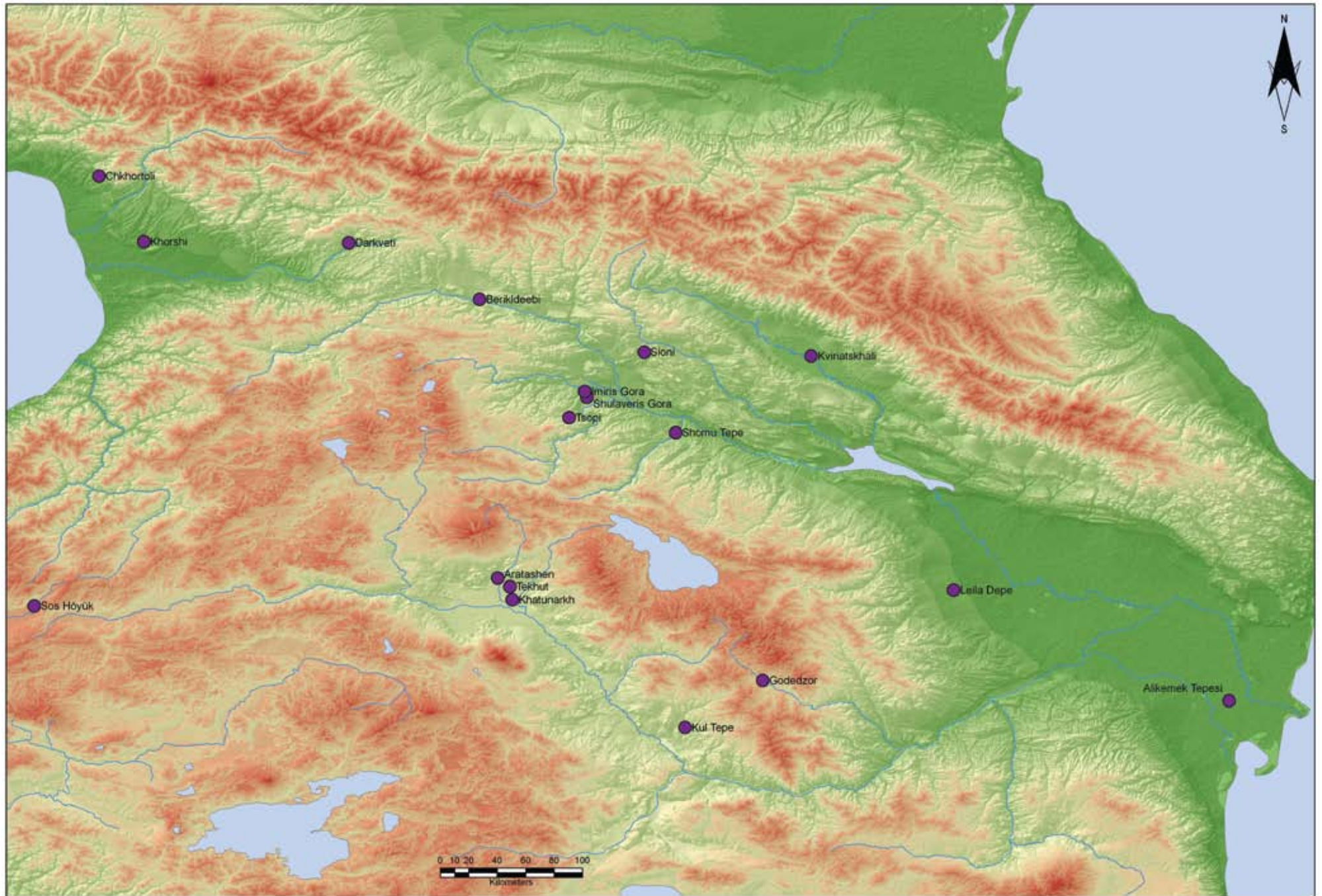
Inset Key

- Ksd-Sedimentary Rocks (Late Cretaceous)
- Qal-Alluvial deposits (Quaternary)
- QI-Lava, intermediate composition (Quaternary)
- QI-Lava flows (Quaternary)
- Tgd-Granodiorite, granite (Eocene-Oligocene)
- Tsv-Sedimentary & volcanic rock (Paleocene-Eocene)
- Tva-Volcanic rock (Tertiary)
- ZPz-Schist, limestone (Proterozoic-Paleozoic)

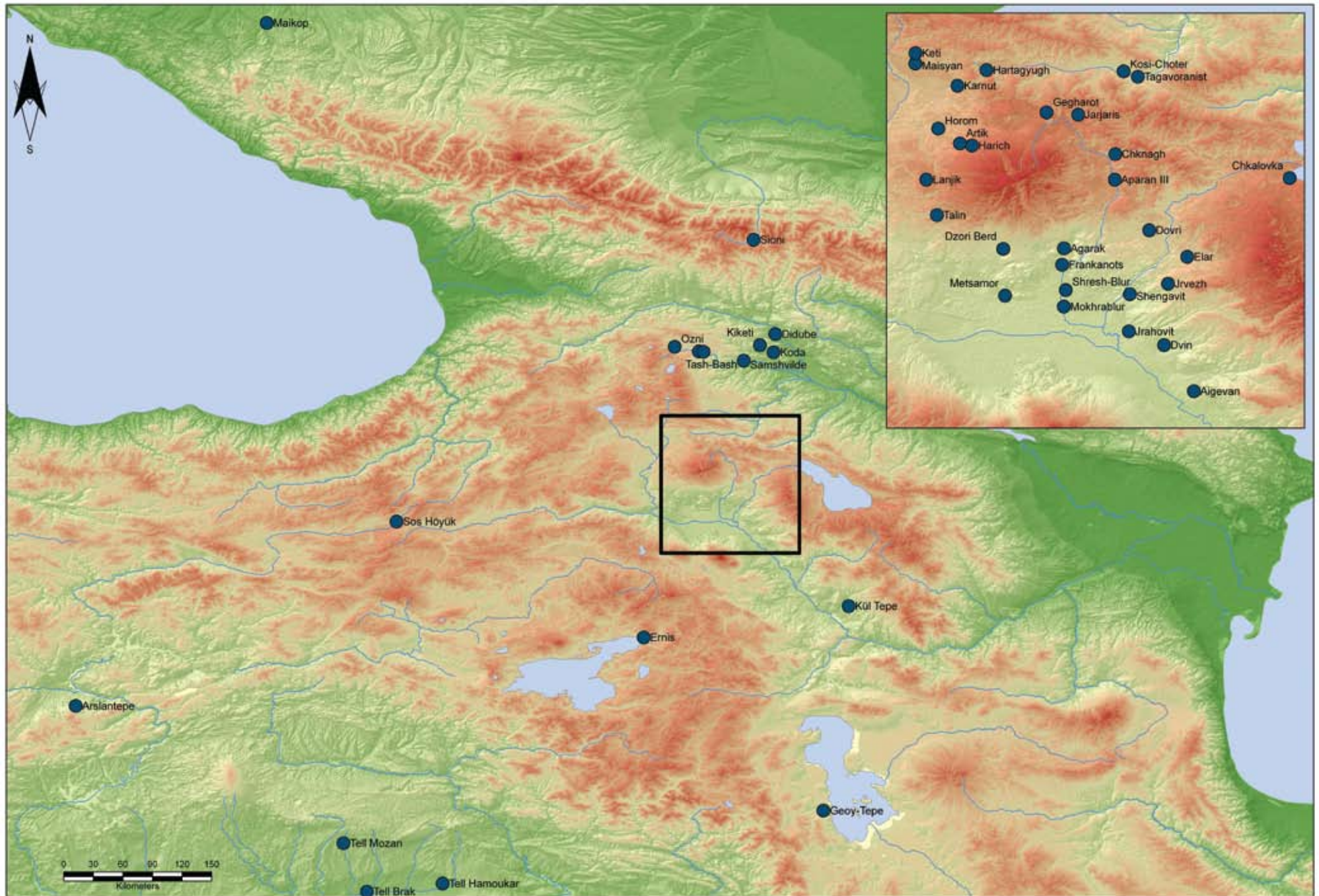
Geological Map of Armenia. Data Sources: SRTM, Georisk; Inset: Maldonado and Castellanos 2000. Created by Adam T. Smith



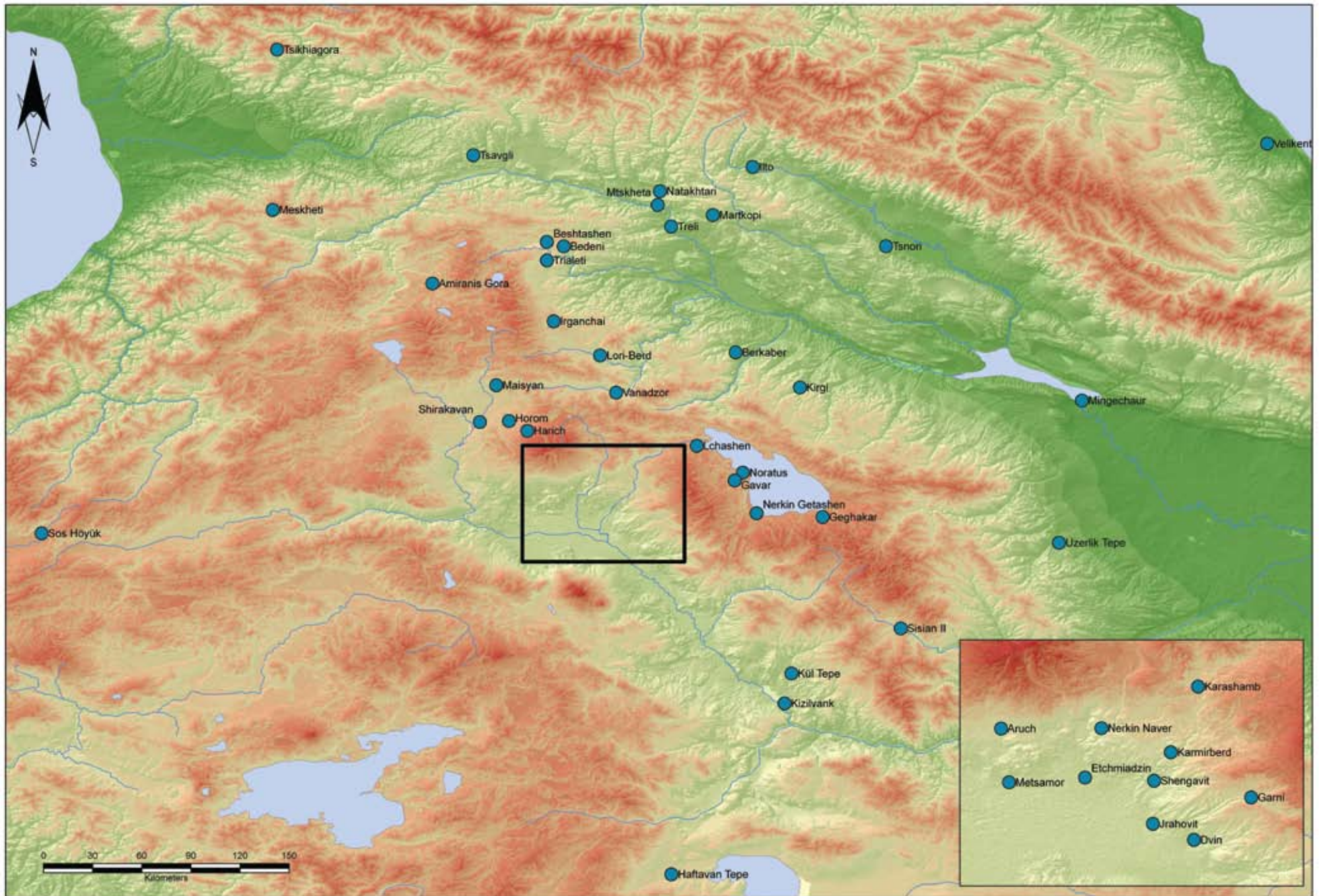
Major Archaeological Excavations in Southern Caucasasia and Neighboring Regions of the Nineteenth and Early Twentieth Centuries. Data Source: SRTM. Created by Adam T. Smith



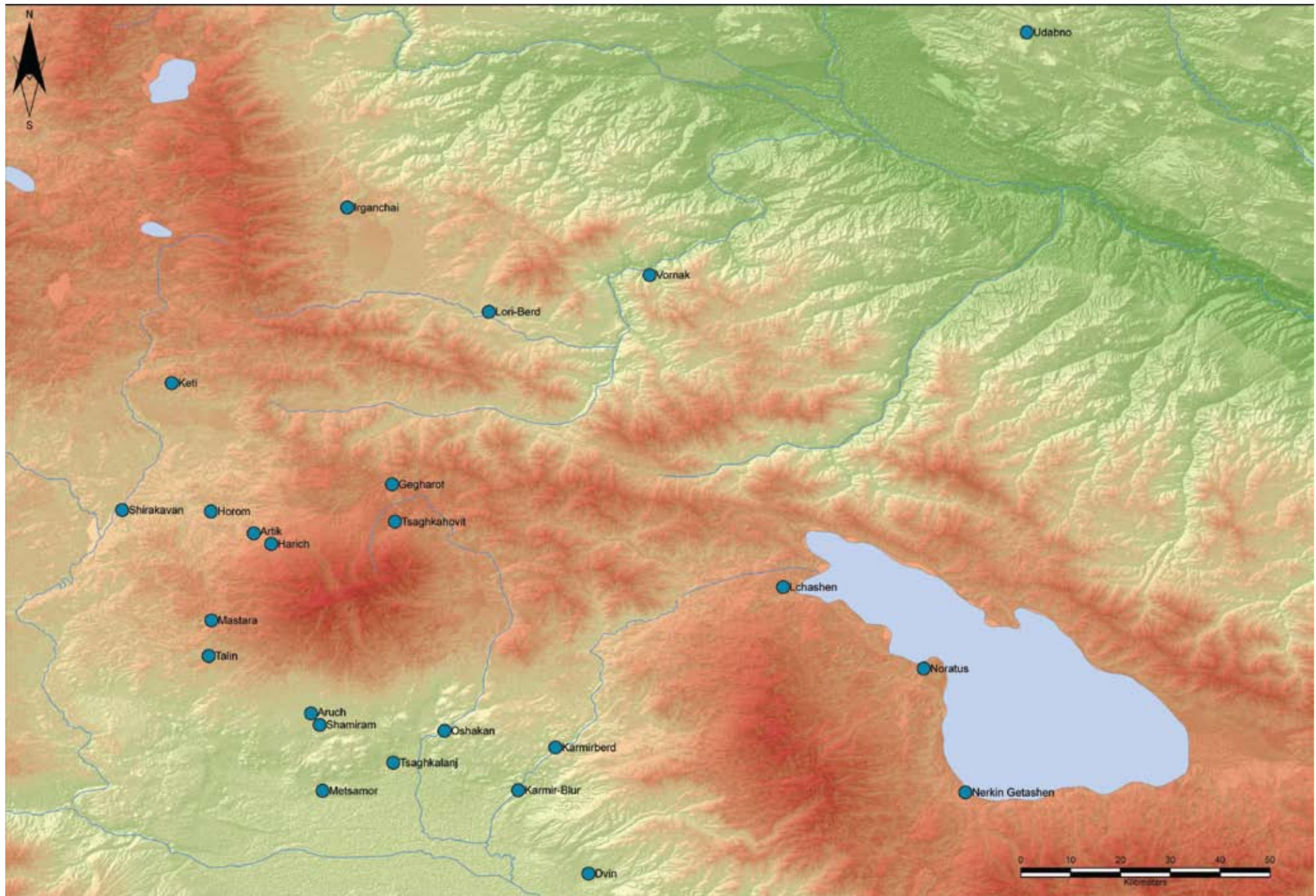
Major Neolithic and Chalcolithic Sites of the South Caucasus. Data Source: SRTM. Created by Adam T. Smith



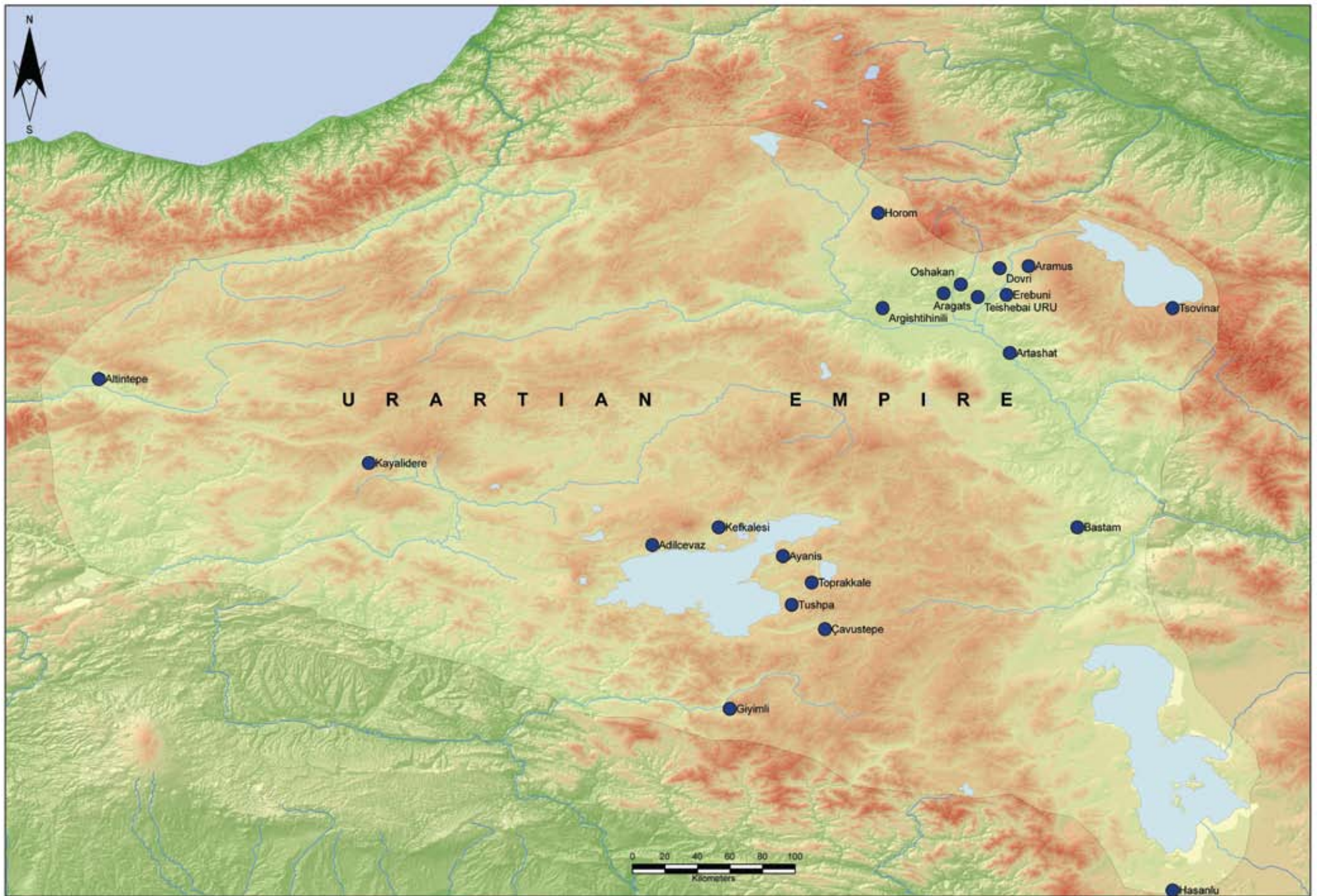
Major Early Bronze Age Sites of the South Caucasus and Adjacent Regions. Data Source: SRTM. Created by Adam T. Smith



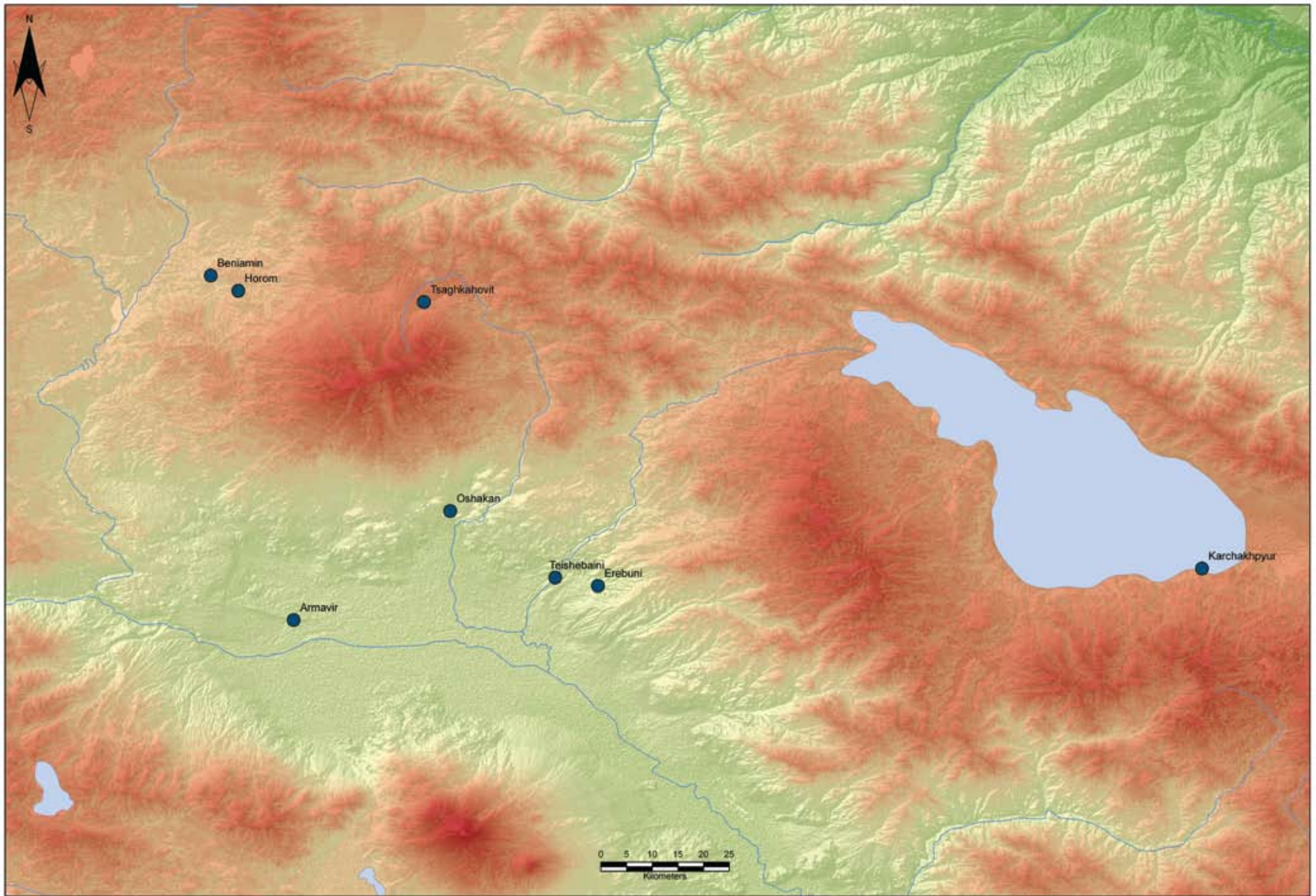
Major Middle Bronze Age Sites of the South Caucasus and Adjacent Regions. Data Source: SRTM. Created By Adam T. Smith



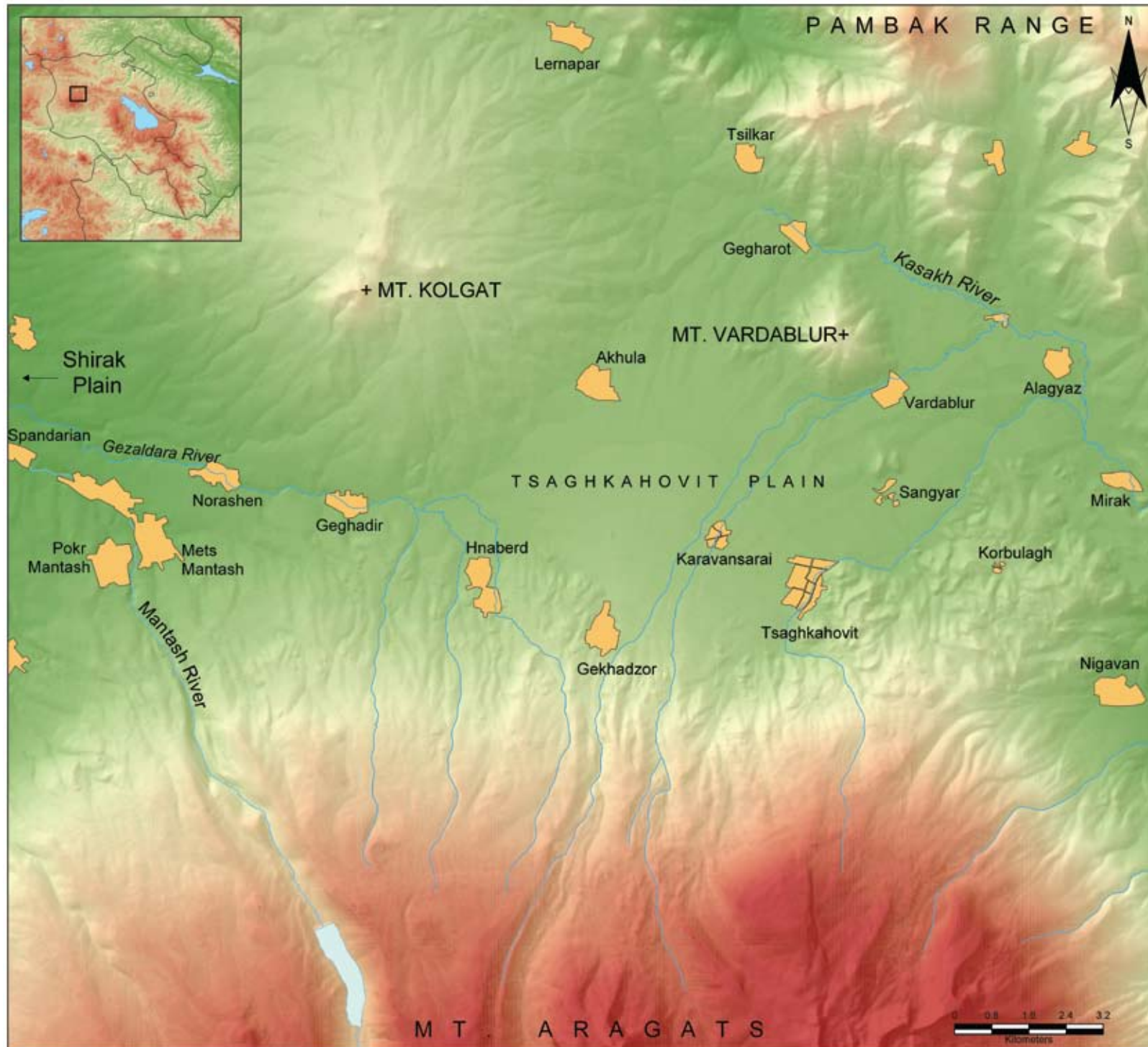
Major Late Bronze Age and Iron I Period Sites of the South Caucasus and Adjacent Regions. Data Source: SRTM. Created by Adam T. Smith



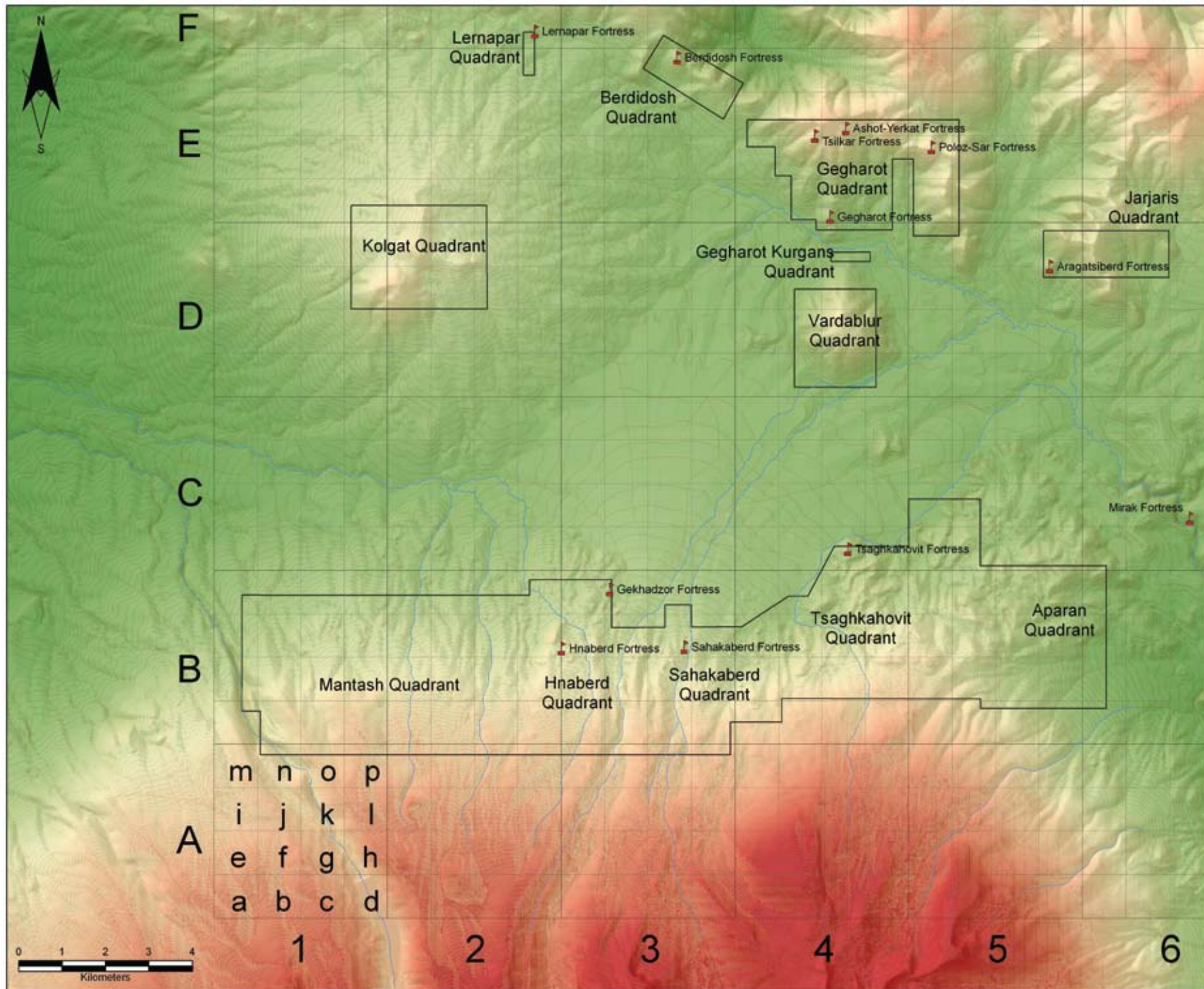
Major Iron II (Uartian) Period Sites of the South Caucasus and Adjacent Regions. Data Source: SRTM. Created by Adam T. Smith



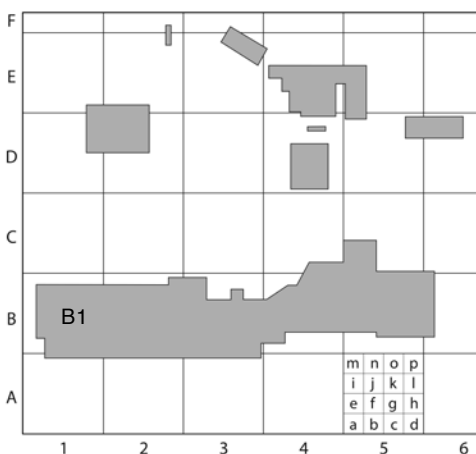
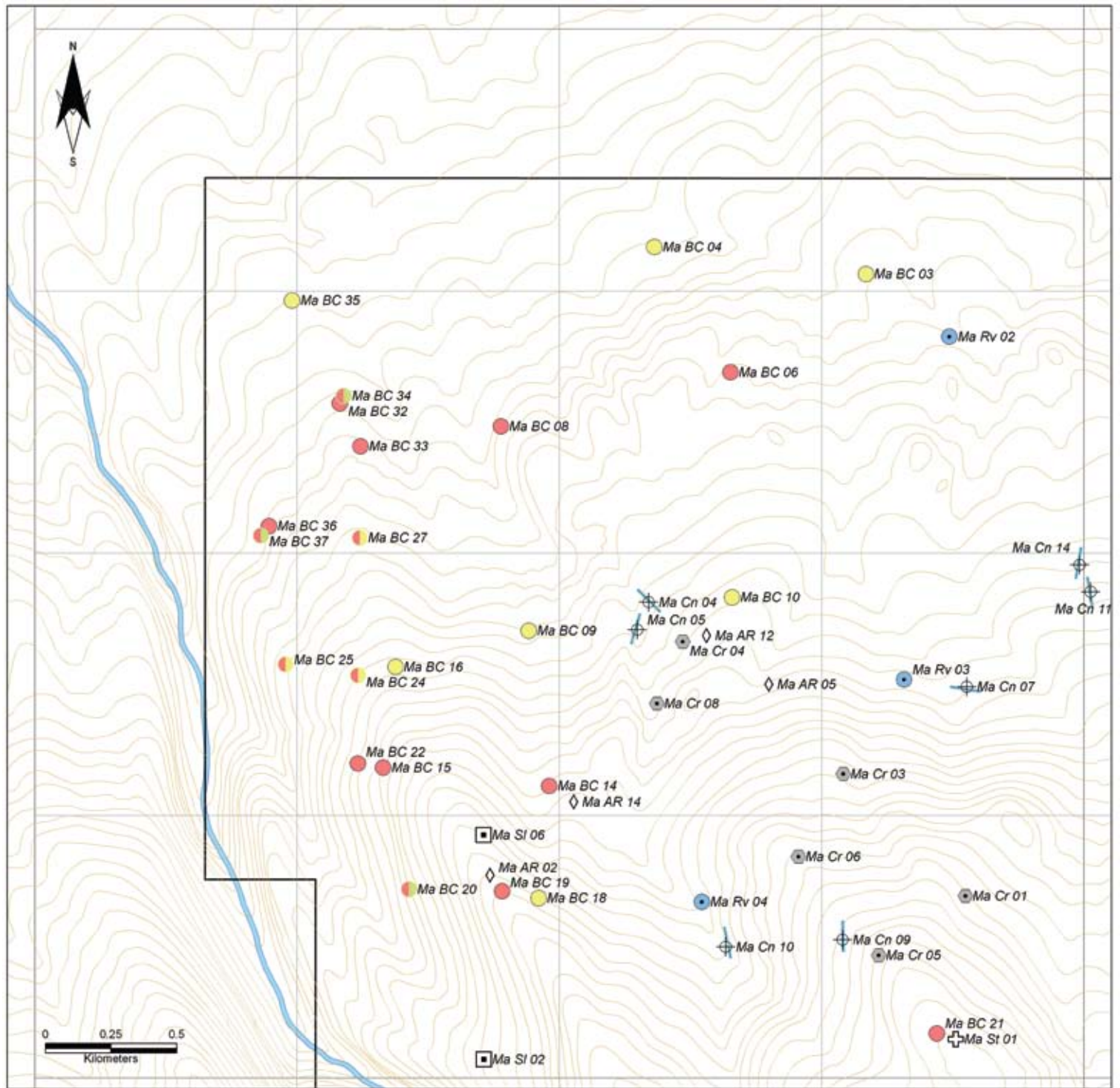
Major Iron III (Achaemenid) Period Sites of Southern Caucasasia. Data Source: SRTM. Created by Adam T. Smith



Tsaghkahovit Plain. Data Source: Eastview Cartographic. Created by Adam T. Smith



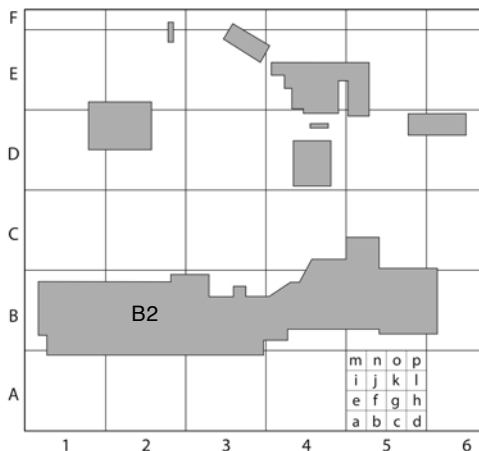
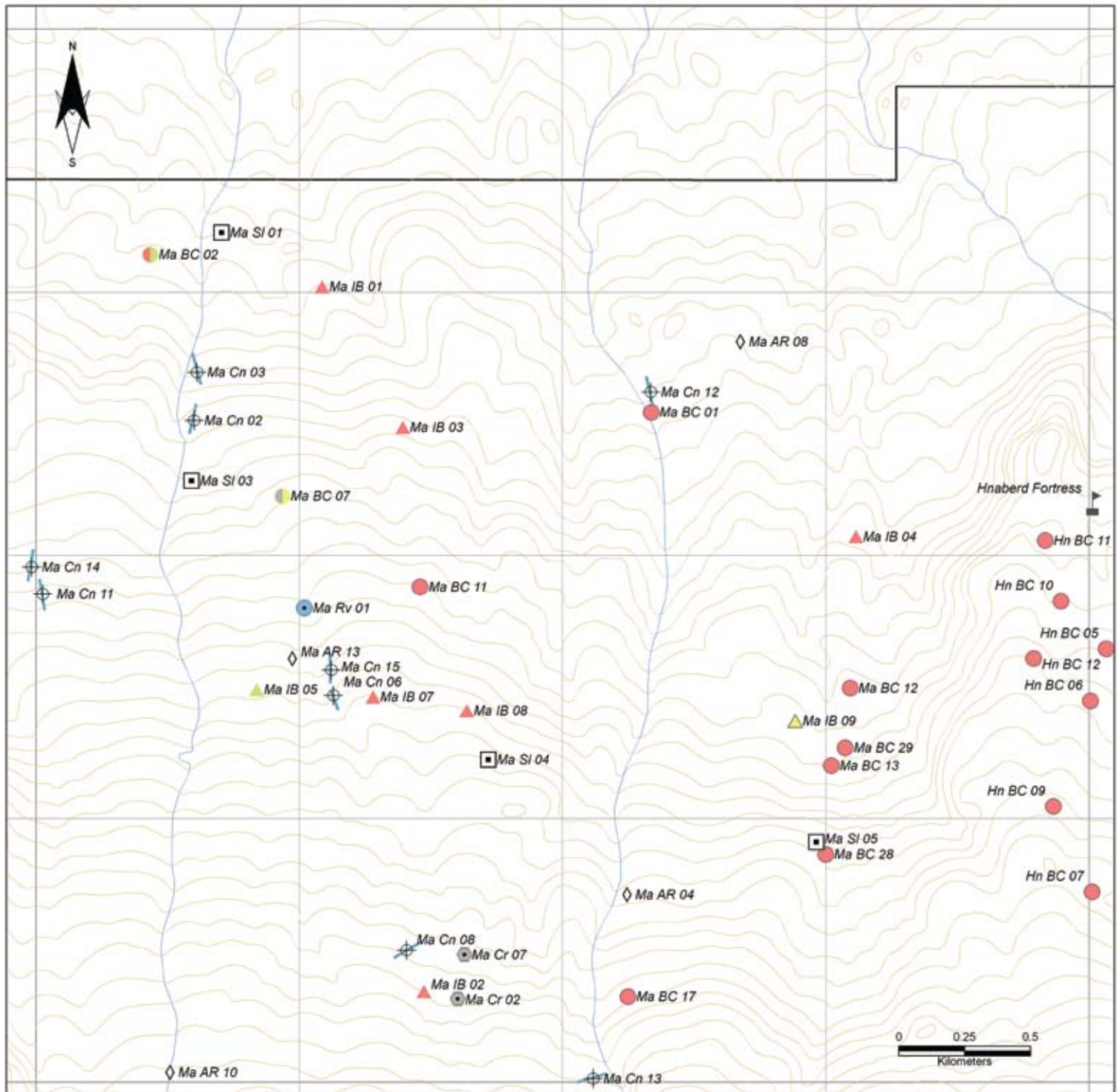
Project ArAGATS Regional Survey, Tsaghkahovit Plain Survey Regions and Major Fortress Sites. Data Source: Eastview Cartographic. Created by Adam T. Smith



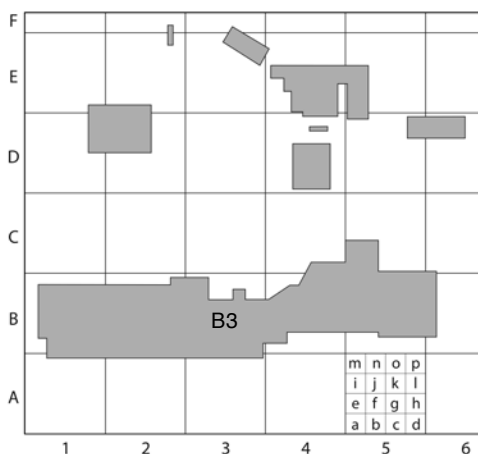
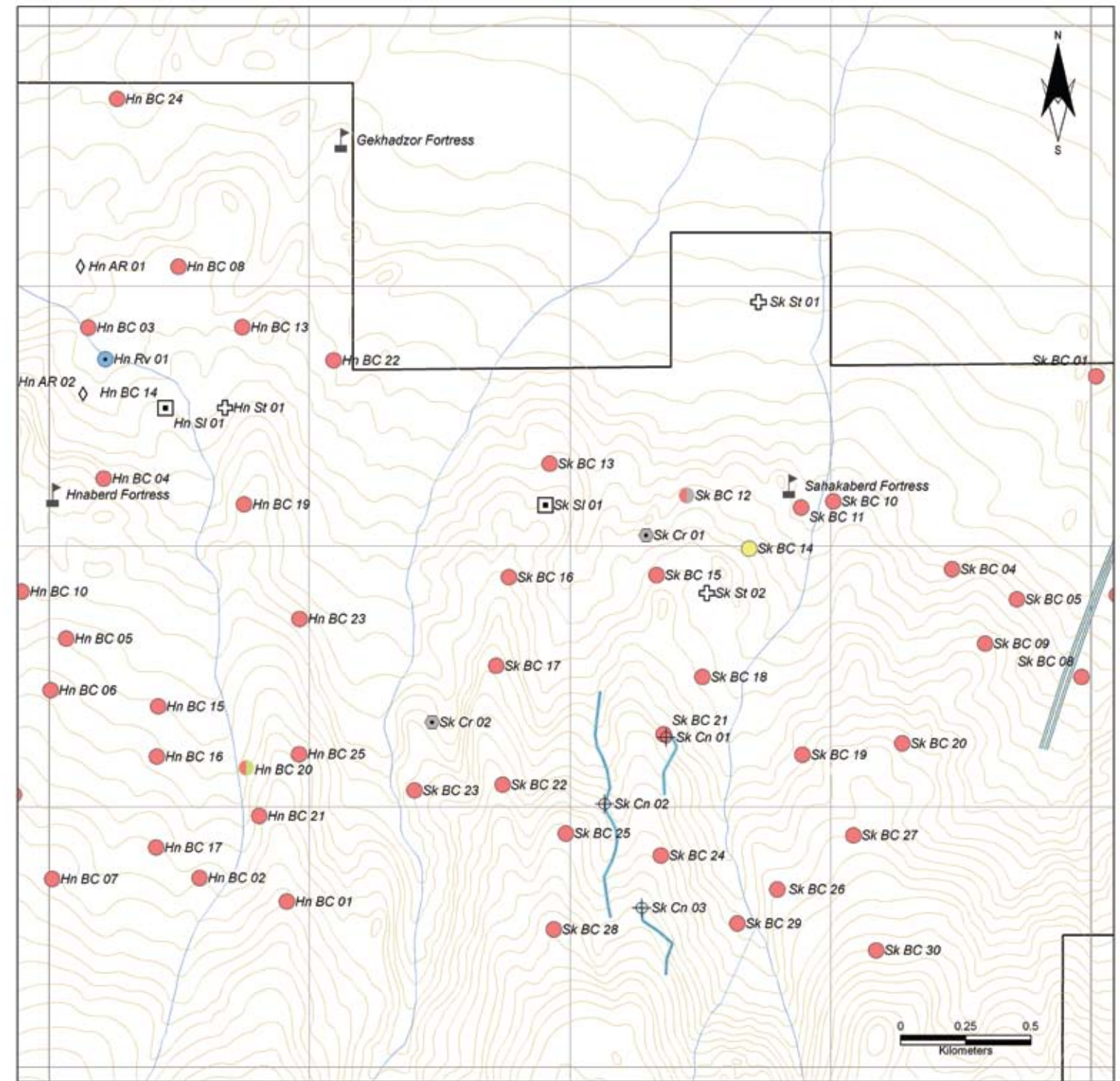
- | | | | | |
|-----------------------|--------------|----------------------------------|---------------|------------------|
| Fortress | Cists | Other Burial Cluster | Canal Point | Artifact Scatter |
| Settlement | Crematoriums | Isolated Burial (color per type) | Canal Segment | Corral |
| Isolated Architecture | Kurgans | | Reservoir | Stela |

Grid Quadrant B1. Key after Plate 12. Data Source: Eastview Cartographic and Project ArAGATS. Created by Adam T. Smith

Plate 14



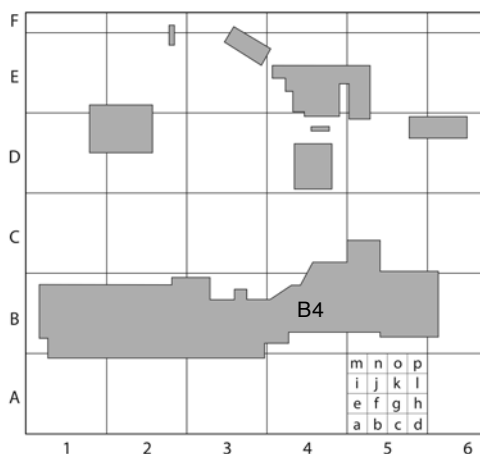
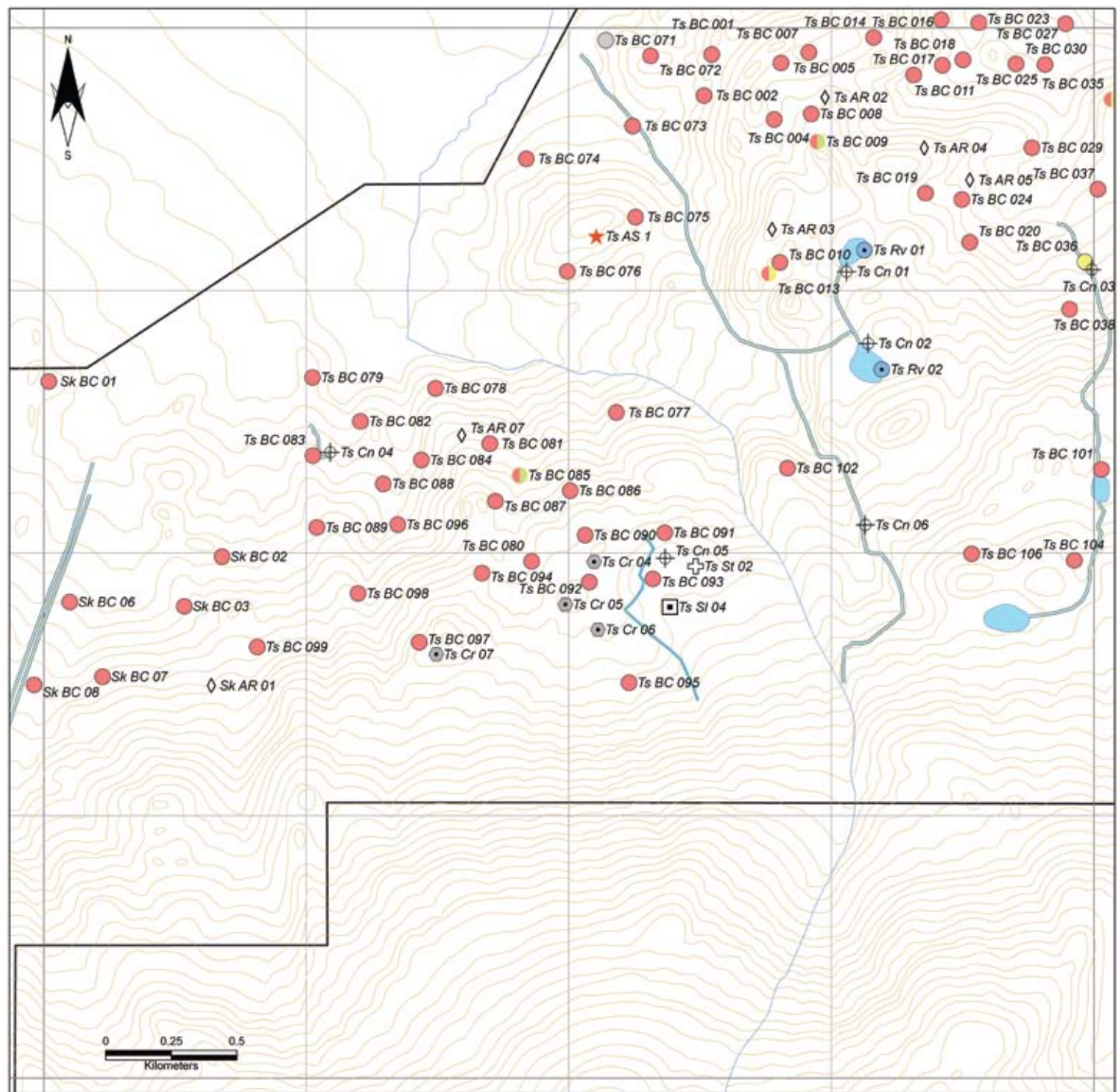
Grid Quadrant B2. Key after Plate 12. Data Source: Eastview Cartographic and Project ArAGATS. Created by Adam T. Smith



- | | | | | |
|-----------------------|-----------|----------------------------------|---------------|------------------|
| Fortress | Cists | Other Burial Cluster | Canal Point | Artifact Scatter |
| Settlement | Cromlechs | Isolated Burial (color per type) | Canal Segment | Corral |
| Isolated Architecture | Kurgans | | Reservoir | Stela |

Grid Quadrant B3. Key after Plate 12. Data Source: Eastview Cartographic and Project ArAGATS. Created by Adam T. Smith

Plate 16

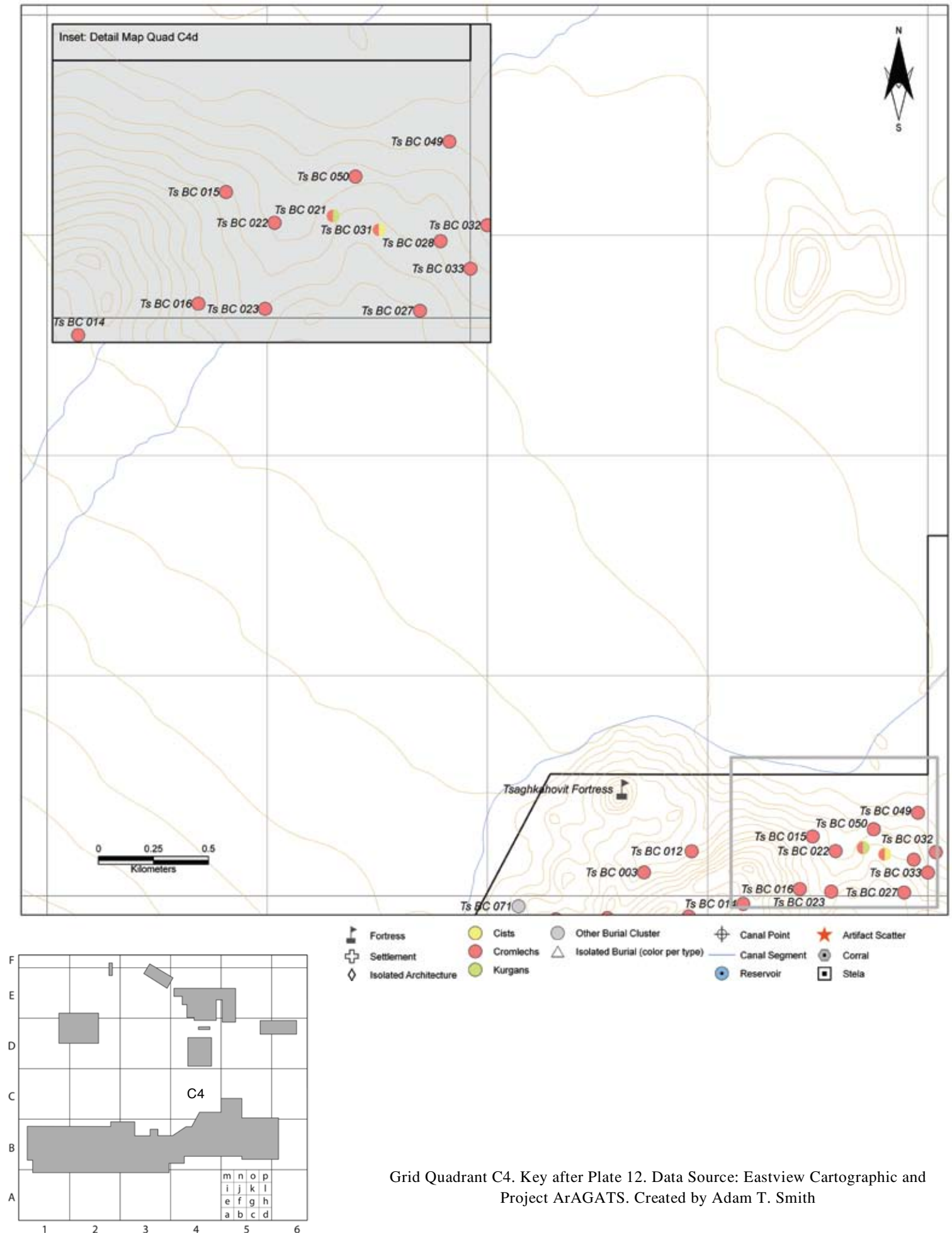


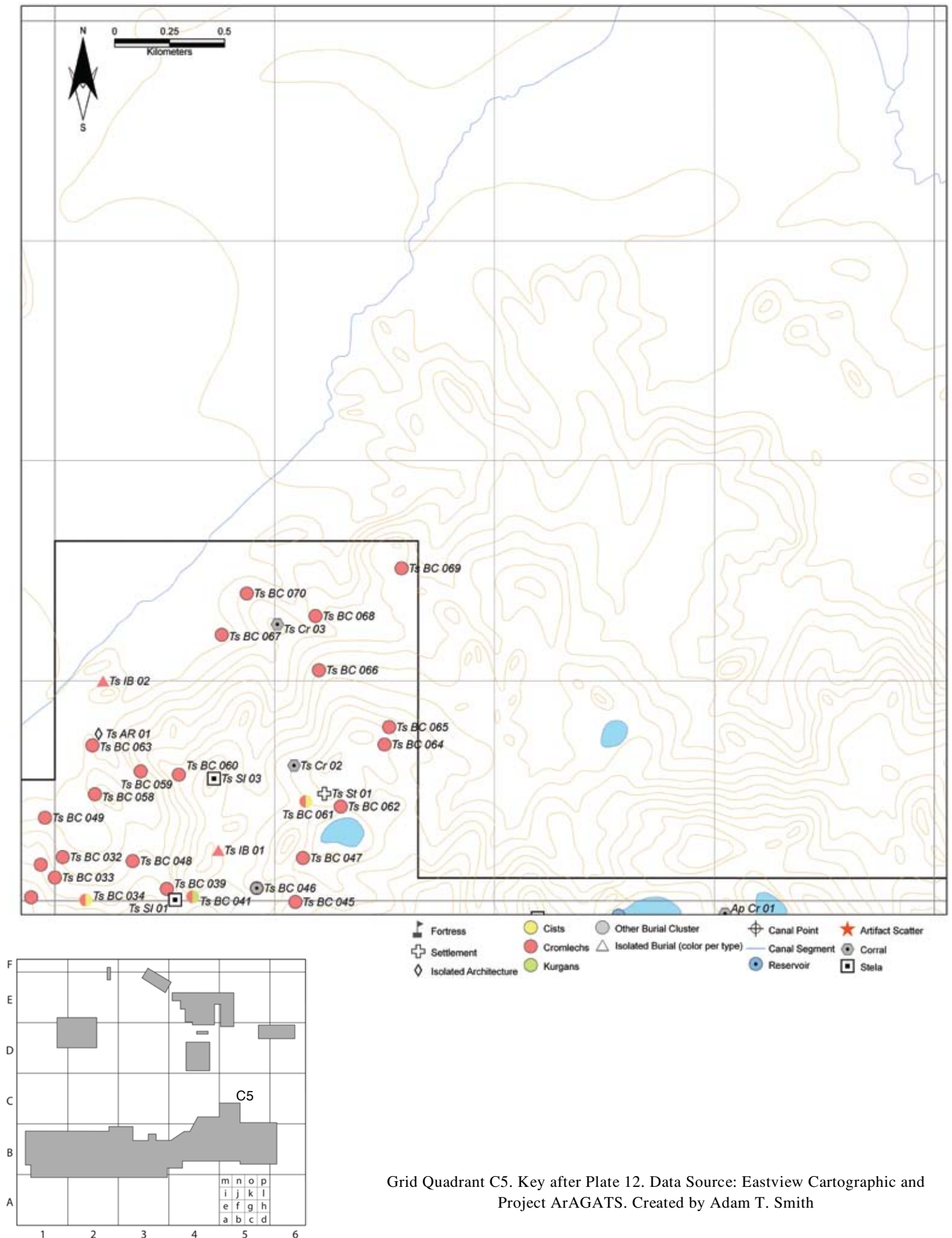
- | | | | | |
|-----------------------|-----------|----------------------------------|---------------|------------------|
| Fortress | Cists | Other Burial Cluster | Canal Point | Artifact Scatter |
| Settlement | Cromlechs | Isolated Burial (color per type) | Canal Segment | Corral |
| Isolated Architecture | Kurgans | | Reservoir | Stela |

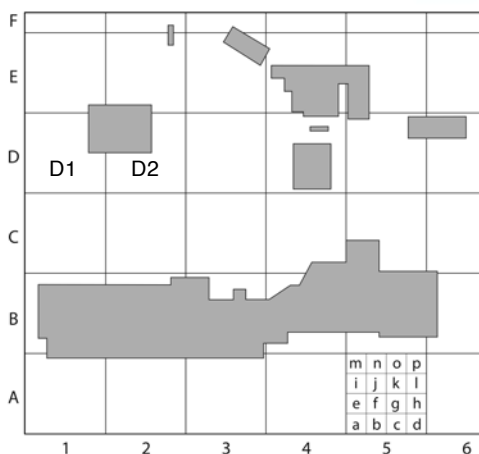
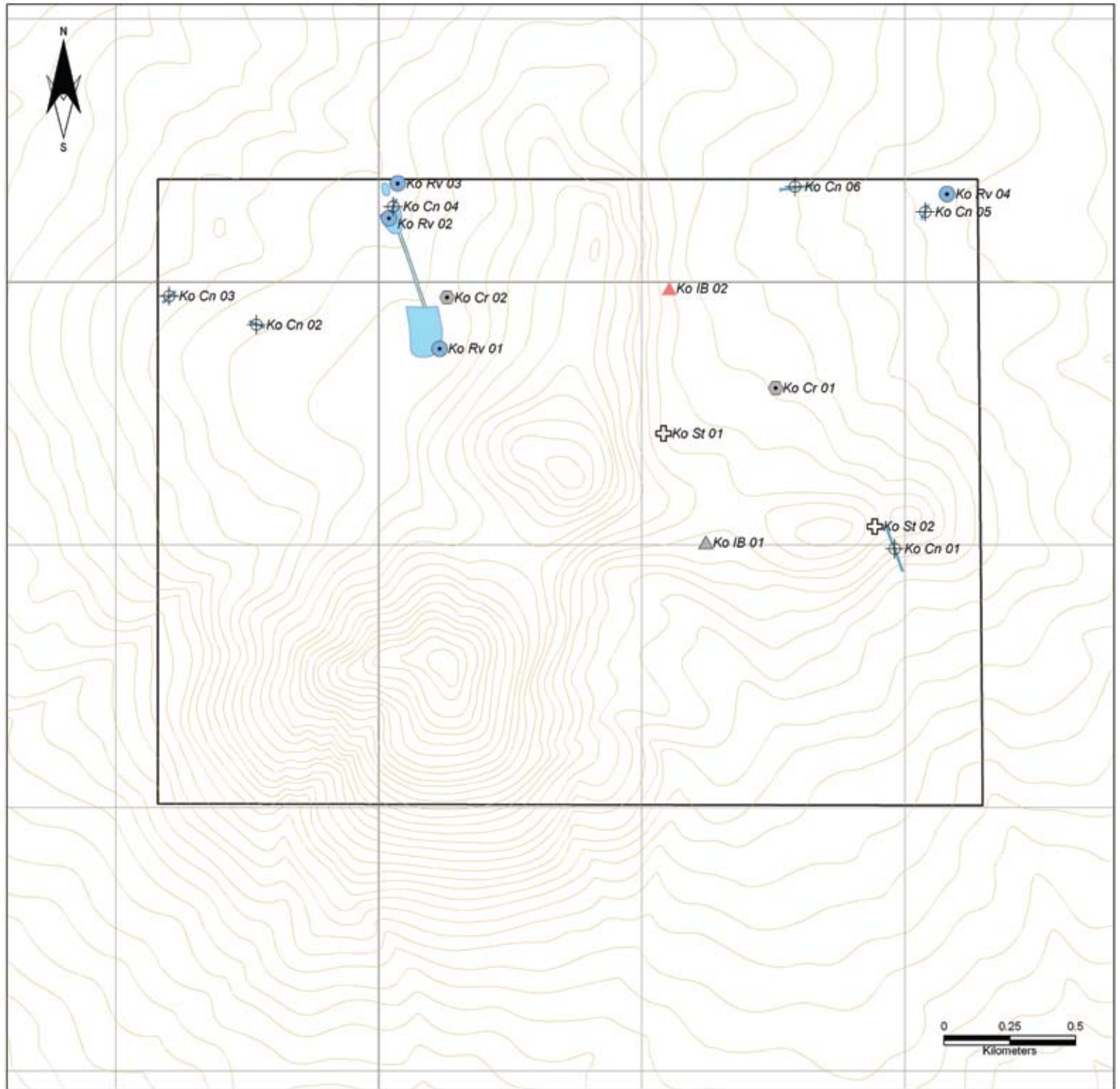
Grid Quadrant B4. Key after Plate 12. Data Source: Eastview Cartographic and Project ArAGATS. Created by Adam T. Smith



Grid Quadrant B5–B6. Key after Plate 12. Data Source: Eastview Cartographic and Project ArAGATS. Created by Adam T. Smith

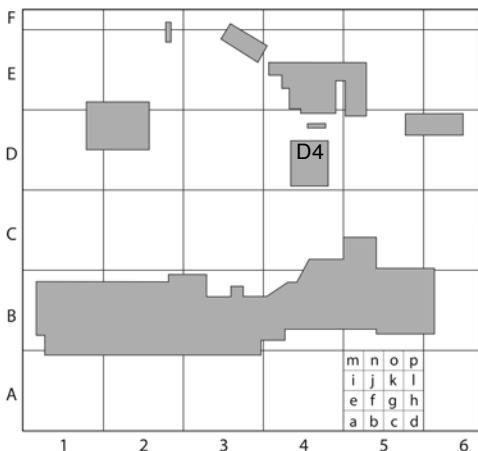
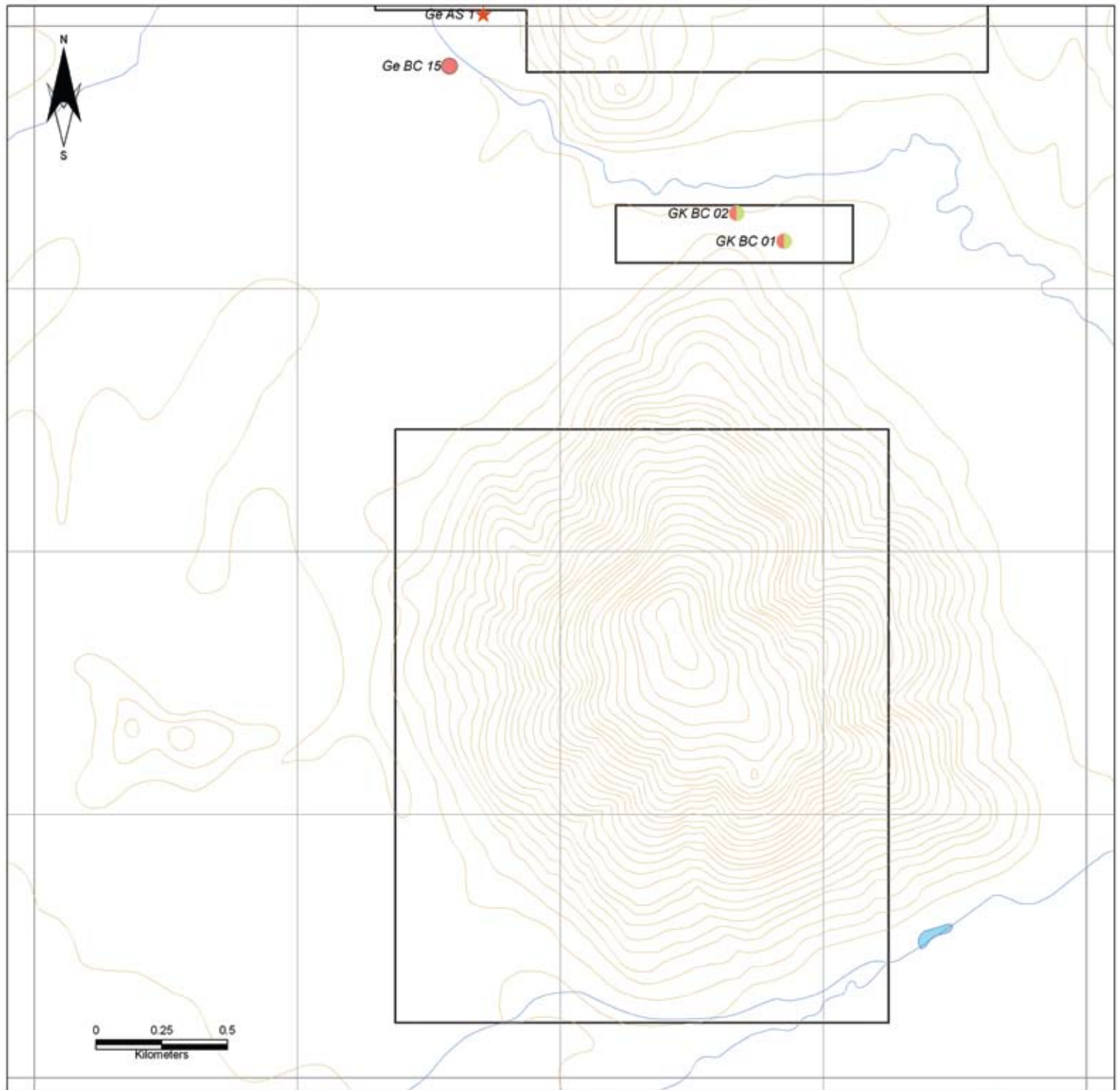






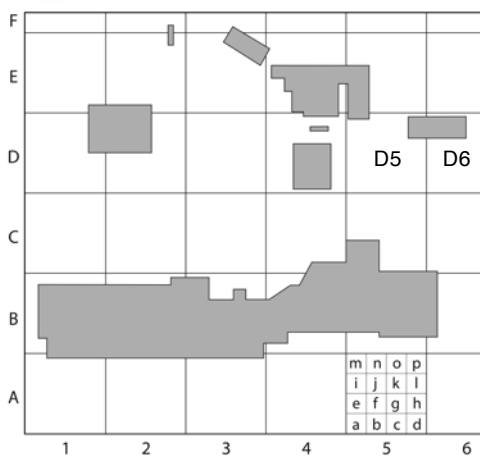
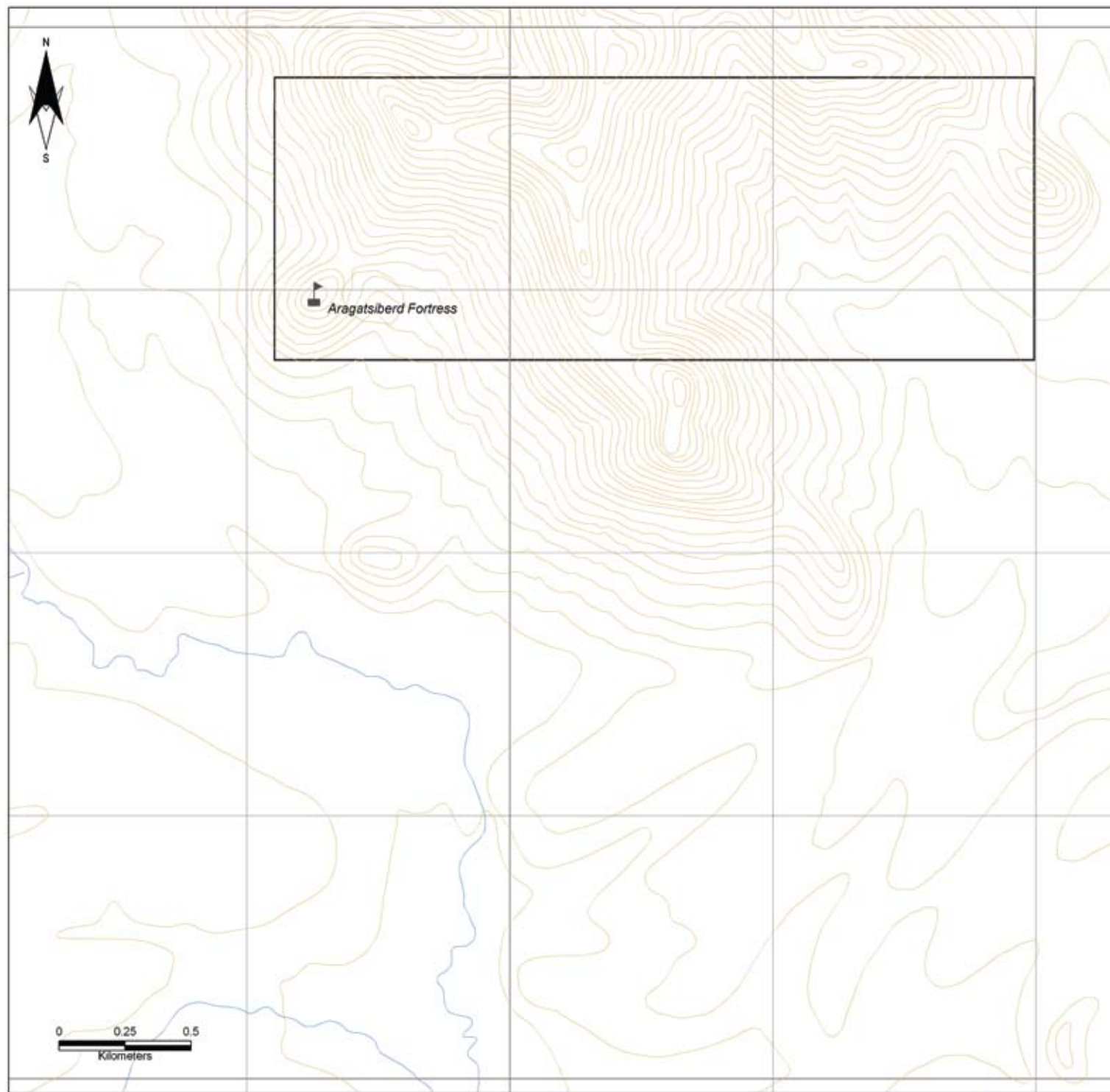
- | | | | | |
|-----------------------|-----------|----------------------------------|---------------|------------------|
| Fortress | Cists | Other Burial Cluster | Canal Point | Artifact Scatter |
| Settlement | Cromlechs | Isolated Burial (color per type) | Canal Segment | Corral |
| Isolated Architecture | Kurgans | | Reservoir | Stela |

Grid Quadrant D1–D2. Key after Plate 12. Data Source: Eastview Cartographic and Project ArAGATS. Created by Adam T. Smith

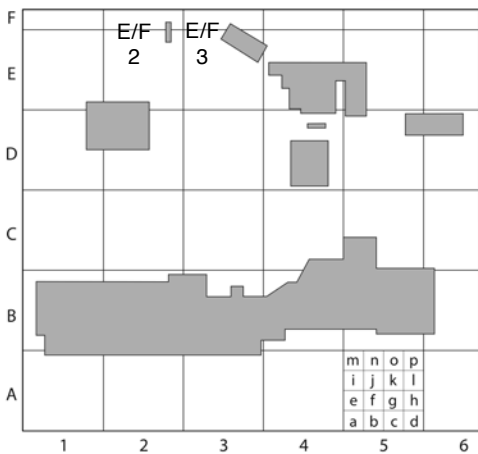
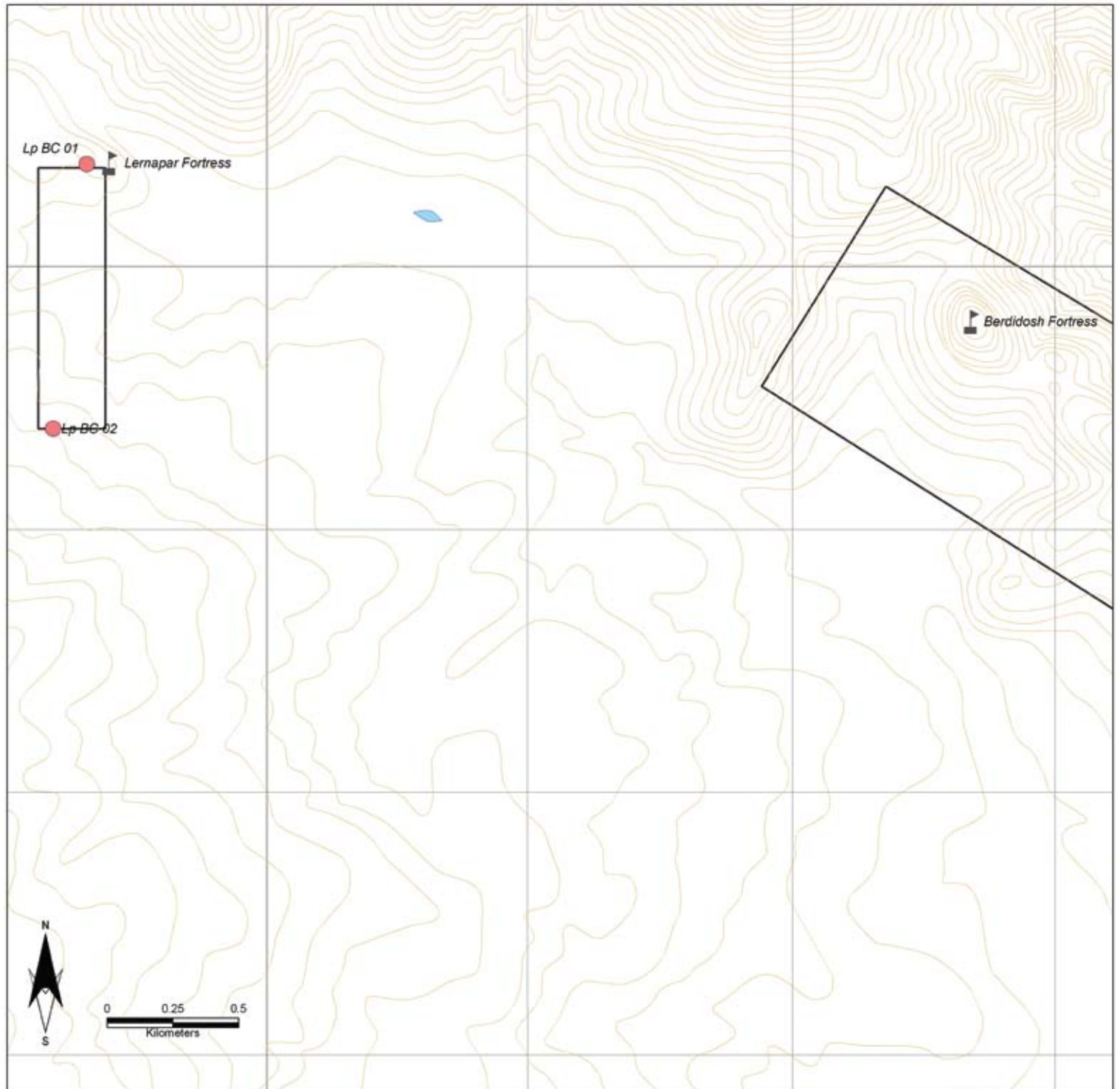


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|-----------------------|-----------|----------------------------------|---------------|------------------|
| Fortress | Cists | Other Burial Cluster | Canal Point | Artifact Scatter |
| Settlement | Cromlechs | Isolated Burial (color per type) | Canal Segment | Corral |
| Isolated Architecture | Kurgans | | Reservoir | Stela |

Grid Quadrant D4. Key after Plate 12. Data Source: Eastview Cartographic and Project ArAGATS. Created by Adam T. Smith



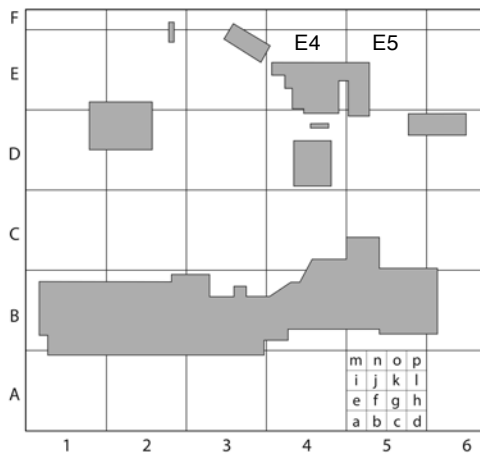
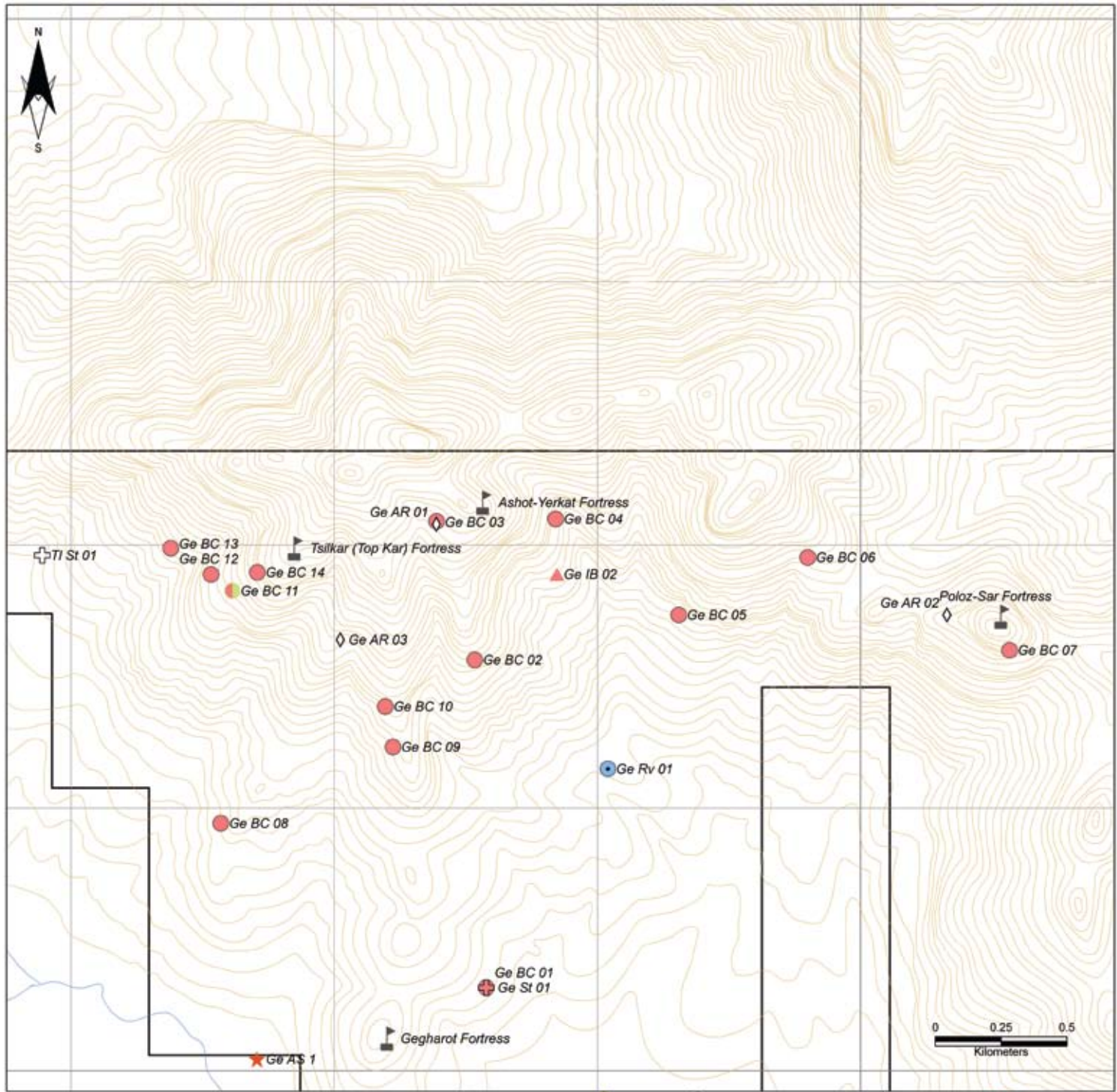
Grid Quadrant D5-D6. Key after Plate 12. Data Source: Eastview Cartographic and Project ArAGATS. Created by Adam T. Smith



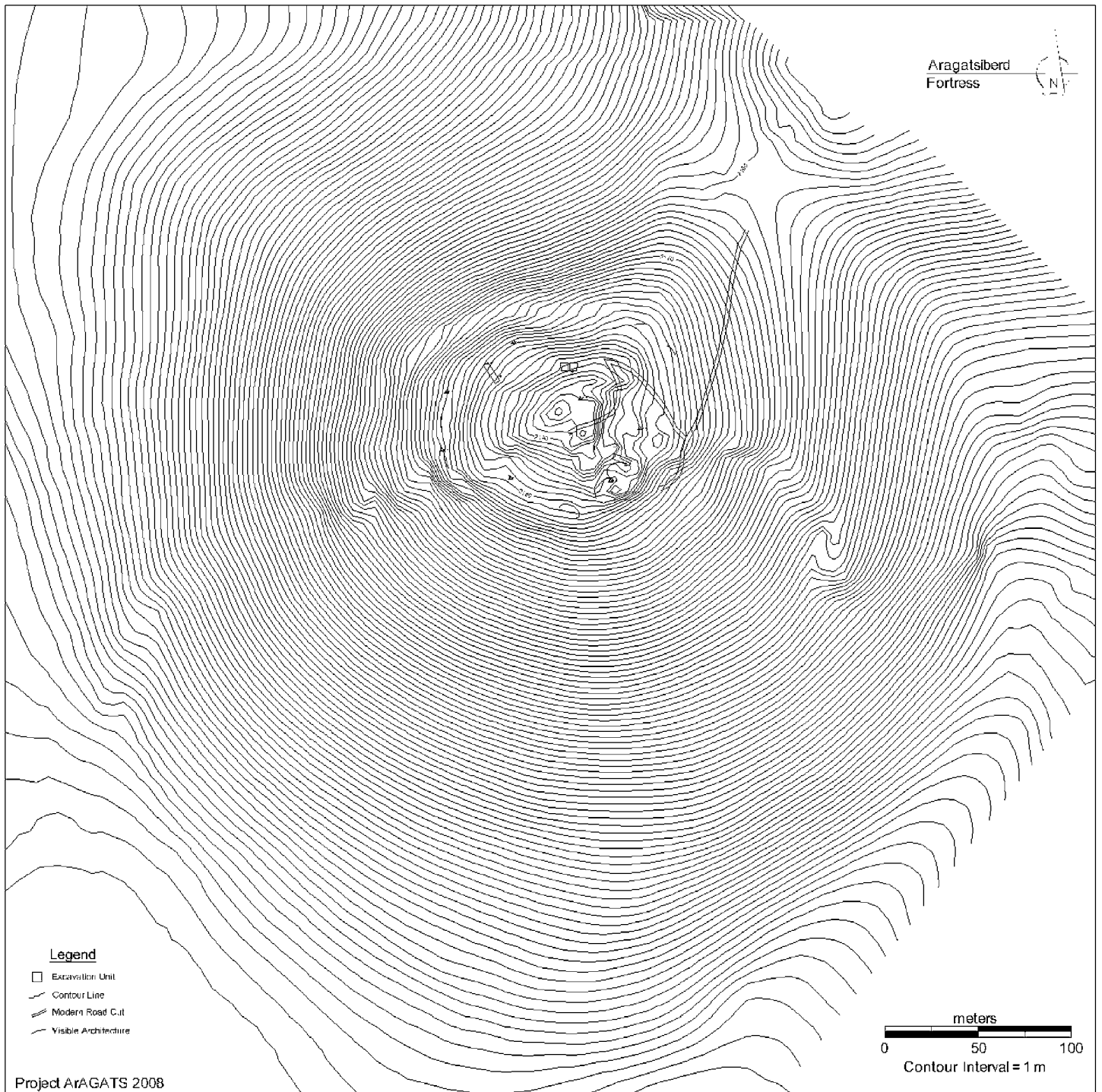
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|-----------------------|-----------|----------------------------------|---------------|------------------|
| Fortress | Cists | Other Burial Cluster | Canal Point | Artifact Scatter |
| Settlement | Cromlechs | Isolated Burial (color per type) | Canal Segment | Coral |
| Isolated Architecture | Kurgans | | Reservoir | Stela |

Grid Quadrant E/F2–E/F3. Key after Plate 12. Data Source: Eastview Cartographic and Project ArAGATS. Created by Adam T. Smith

Plate 24



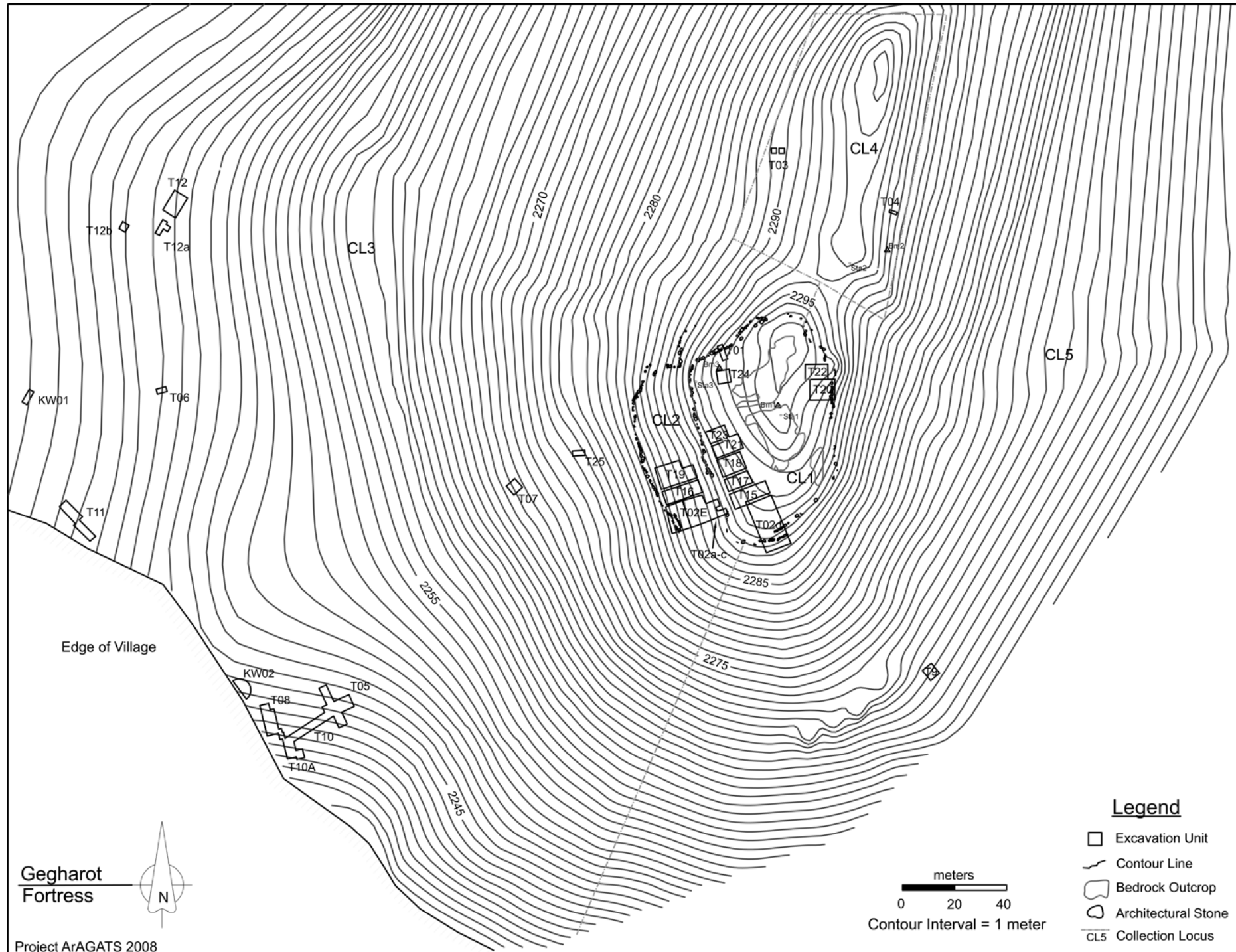
Grid Quadrant E4-E5. Key after Plate 12. Data Source: Eastview Cartographic and Project ArAGATS. Created by Adam T. Smith

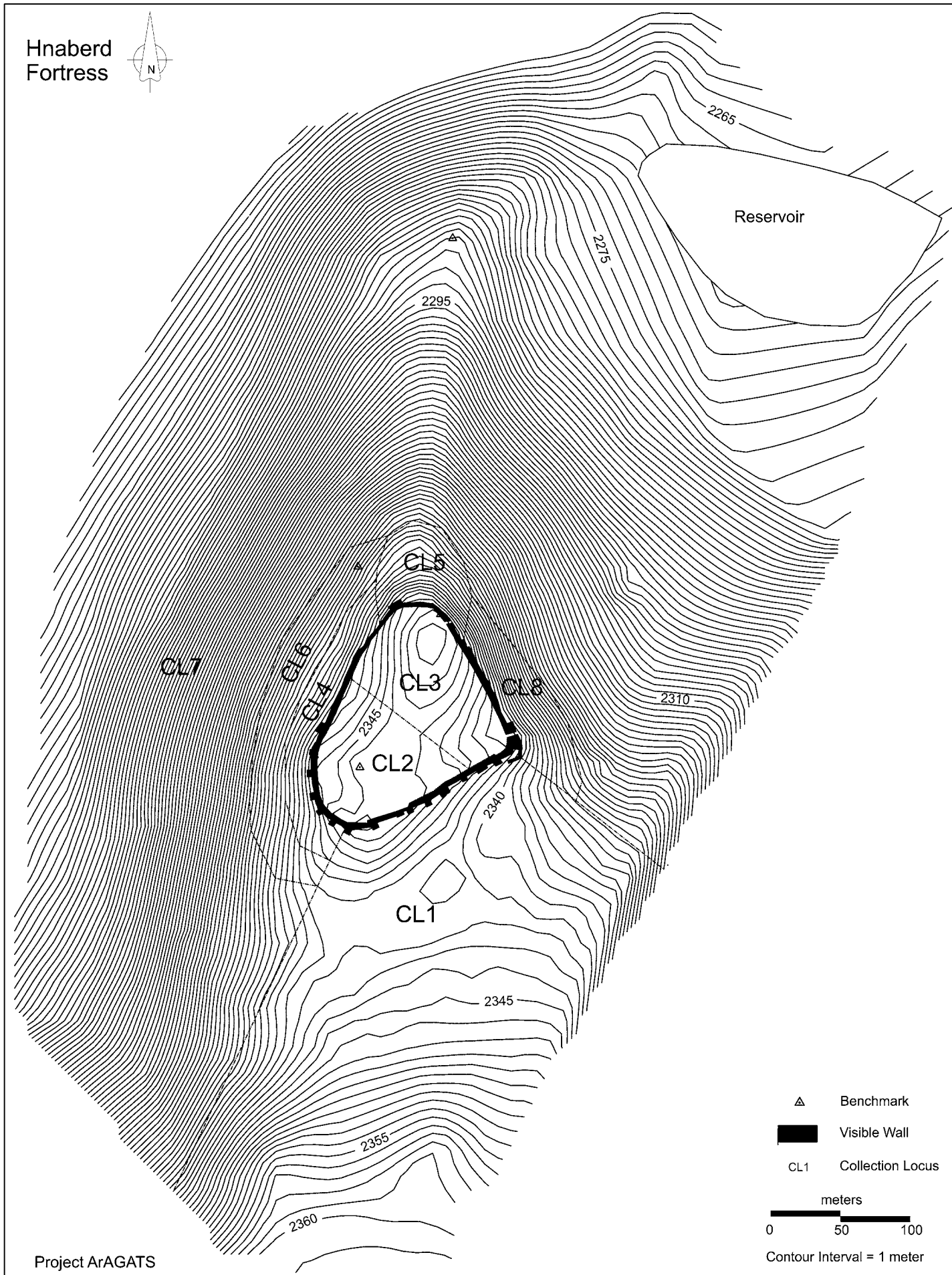


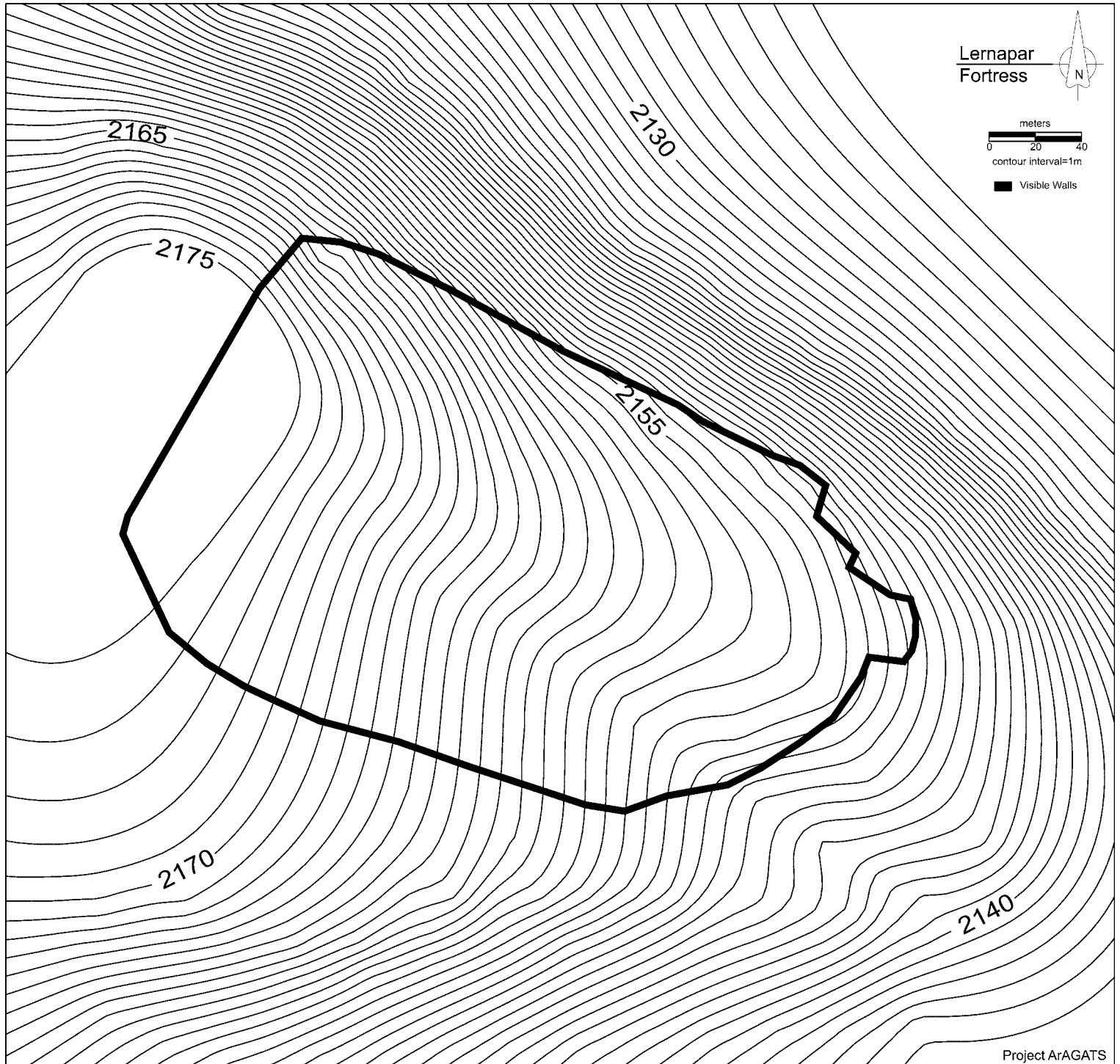
Aragatsiberd Fortress



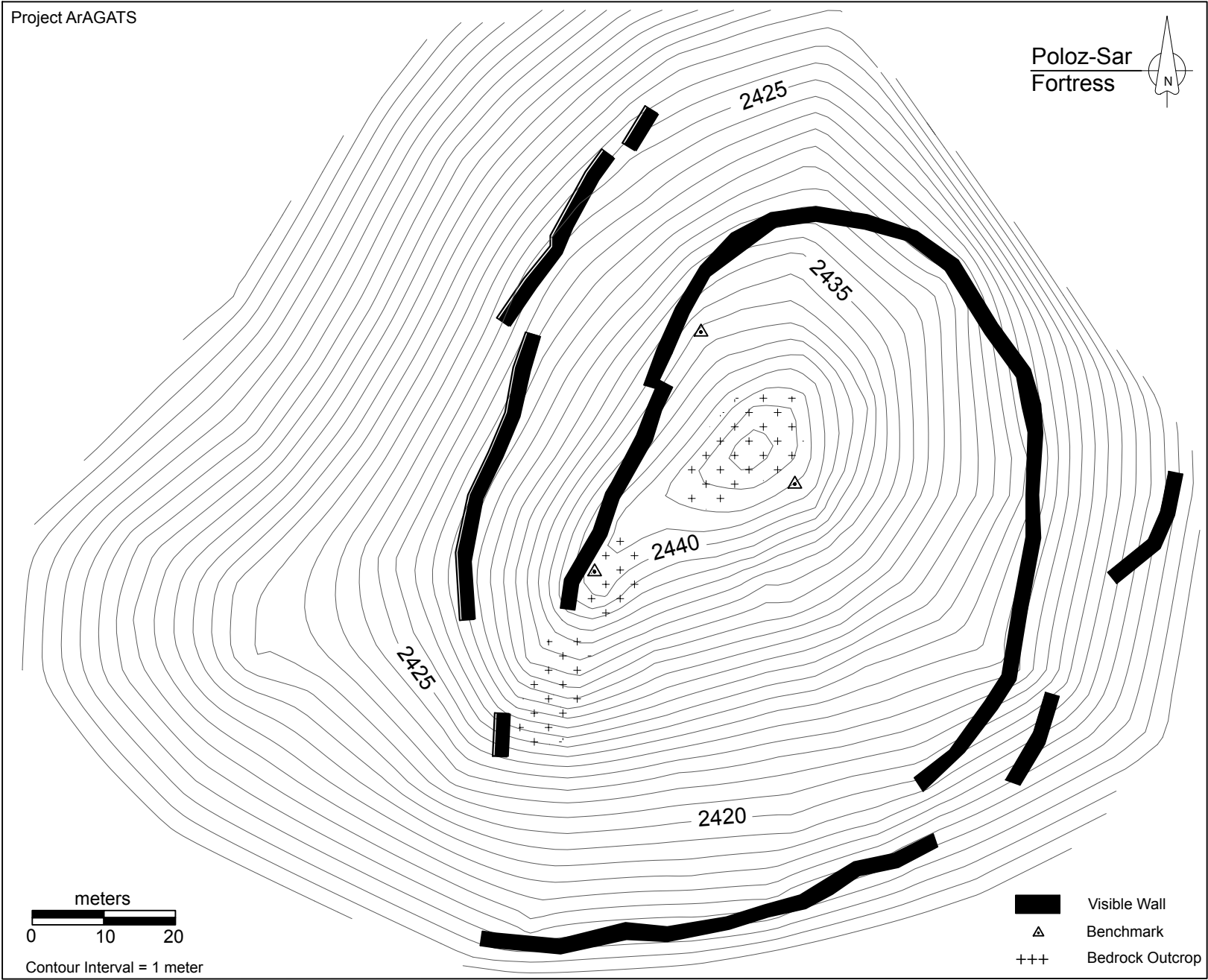
Ashot-Yerkat Fortress



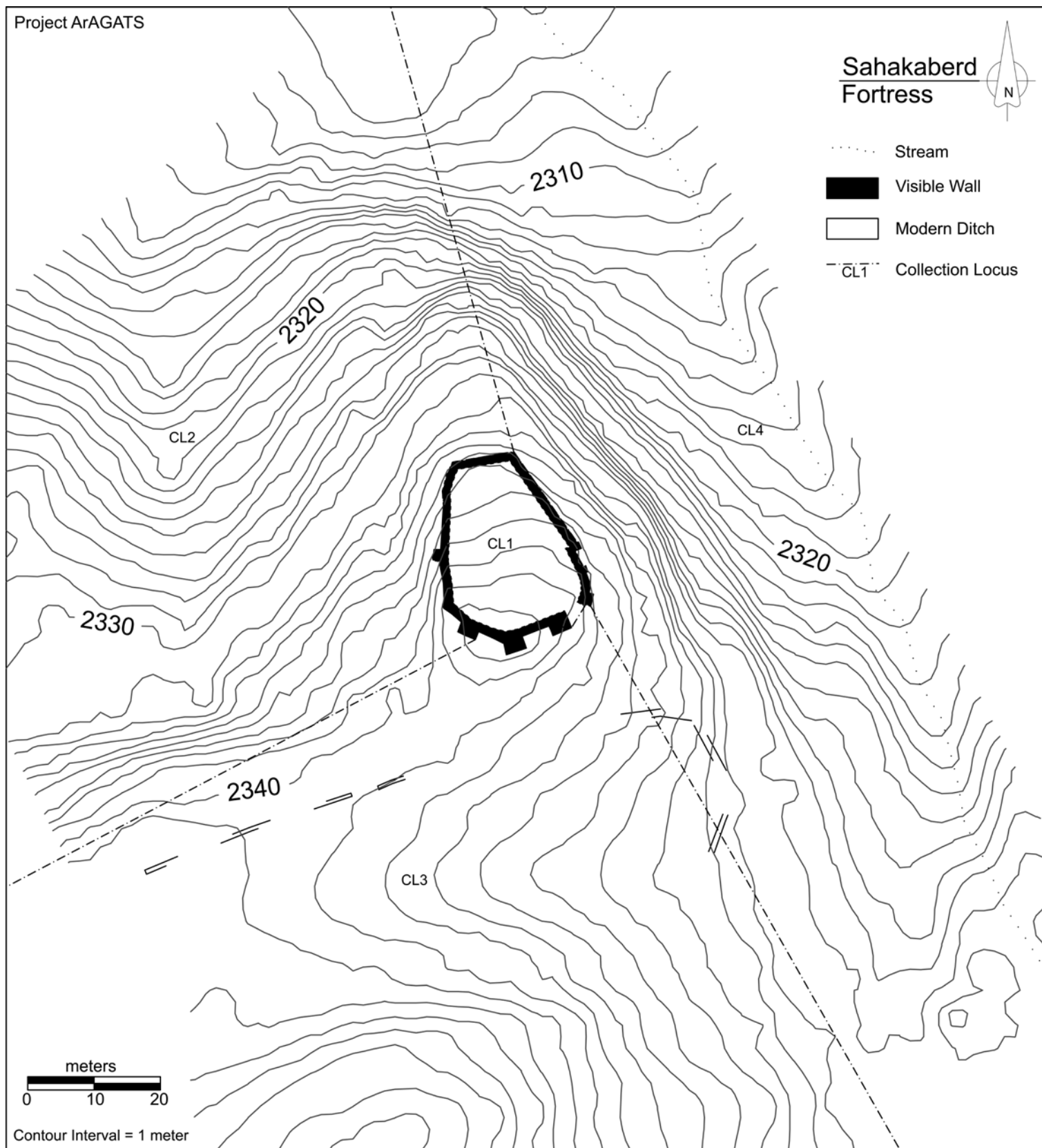




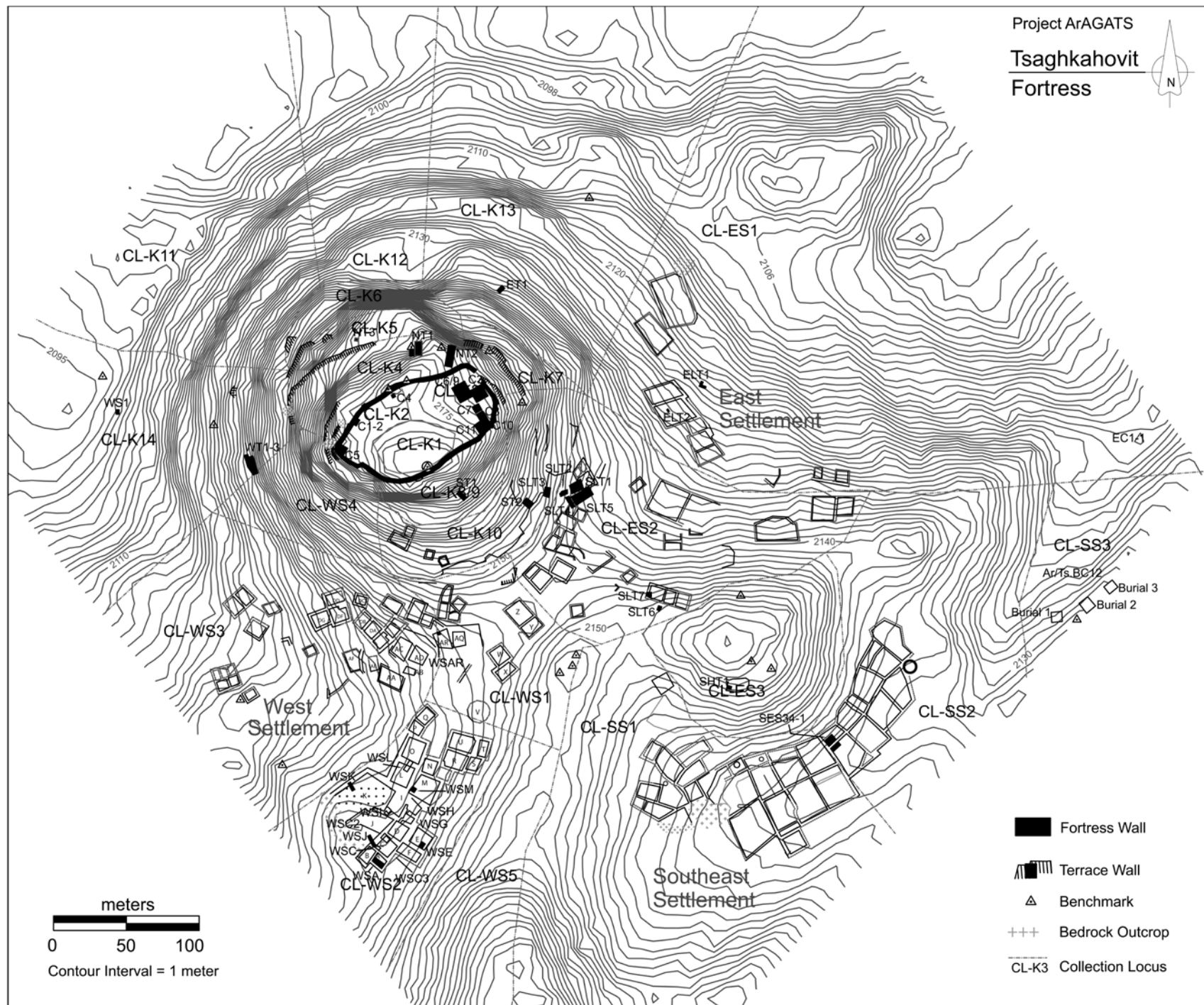
Lernapar Fortress



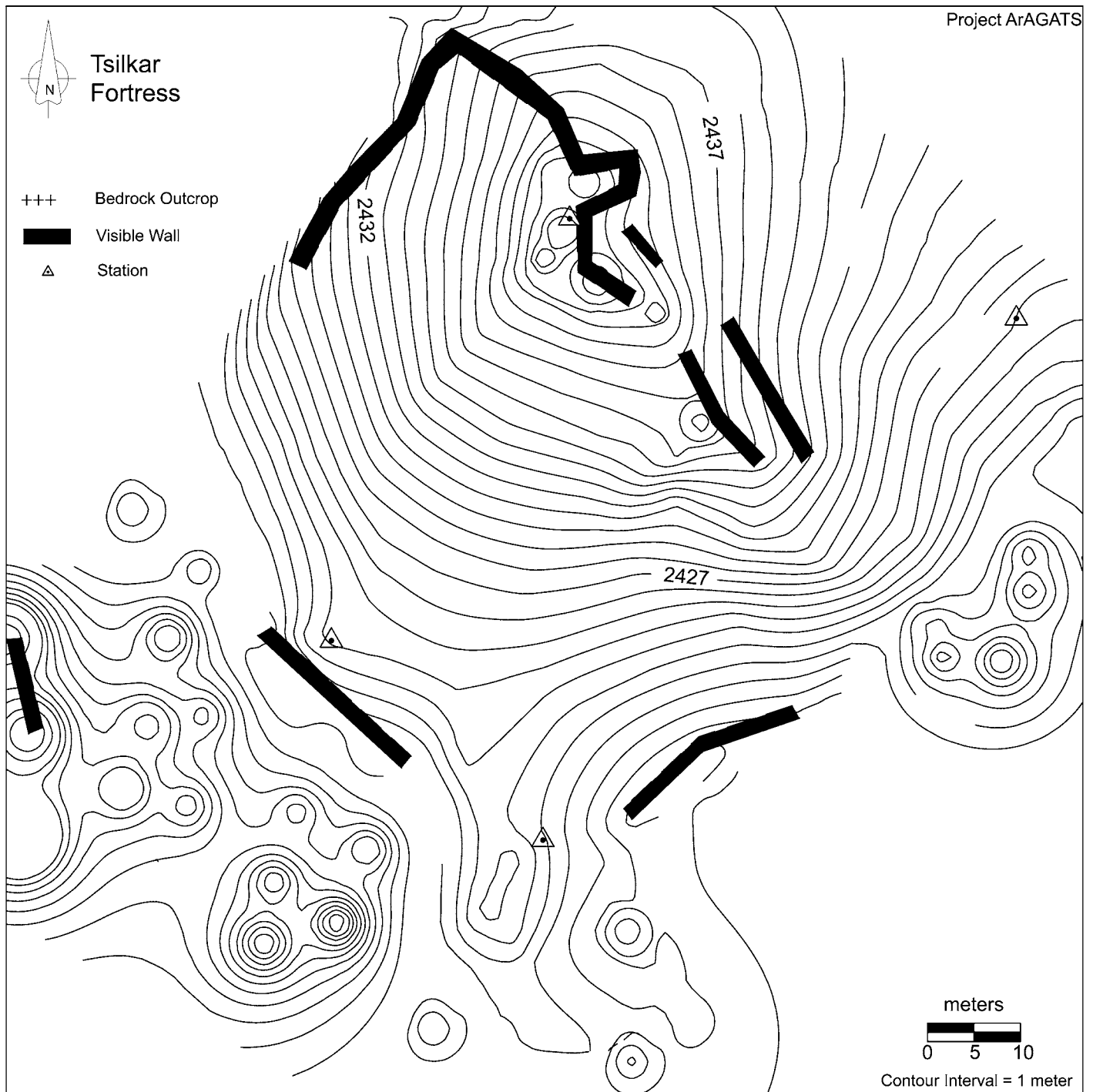
Poloz-Sar Fortress



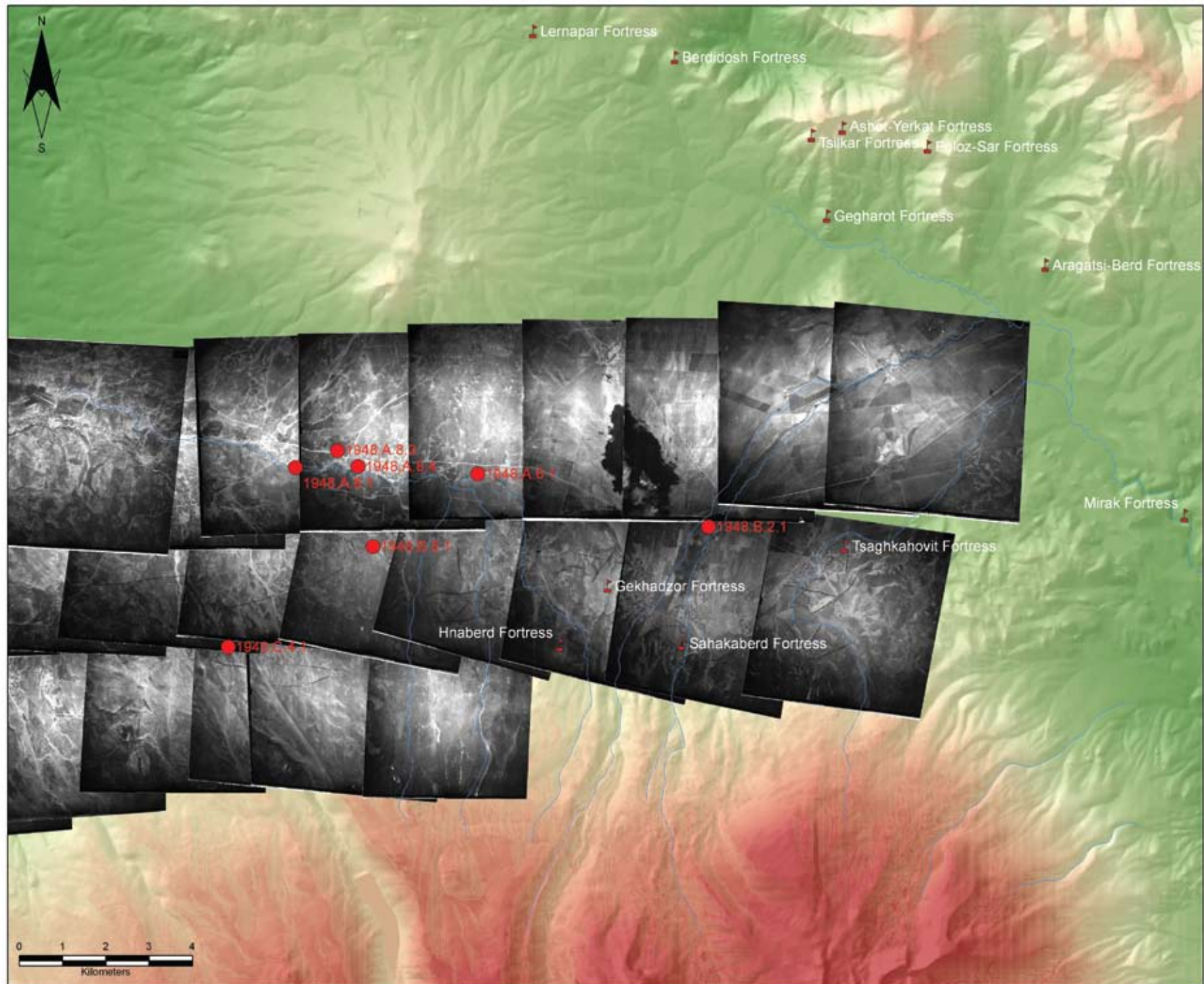
Sahakaberd Fortress



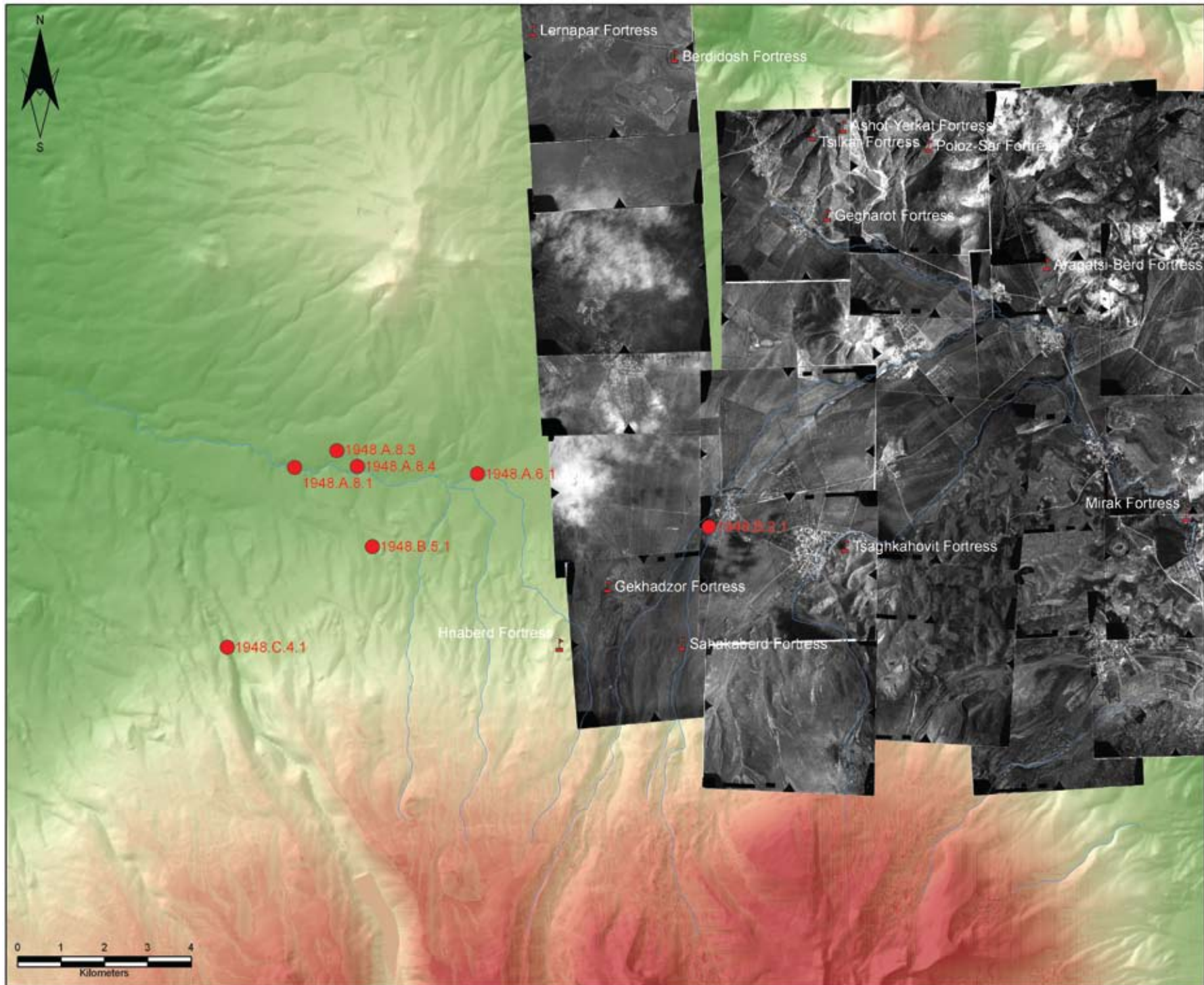
Tsaghkahovit Fortress



Tsilkar (Top Kar) Fortress



Tsaghkahovit Plain Showing Coverage of the 1948 Series Aerial Photographs. Data Source: Eastview Cartographic. Created by Adam T. Smith



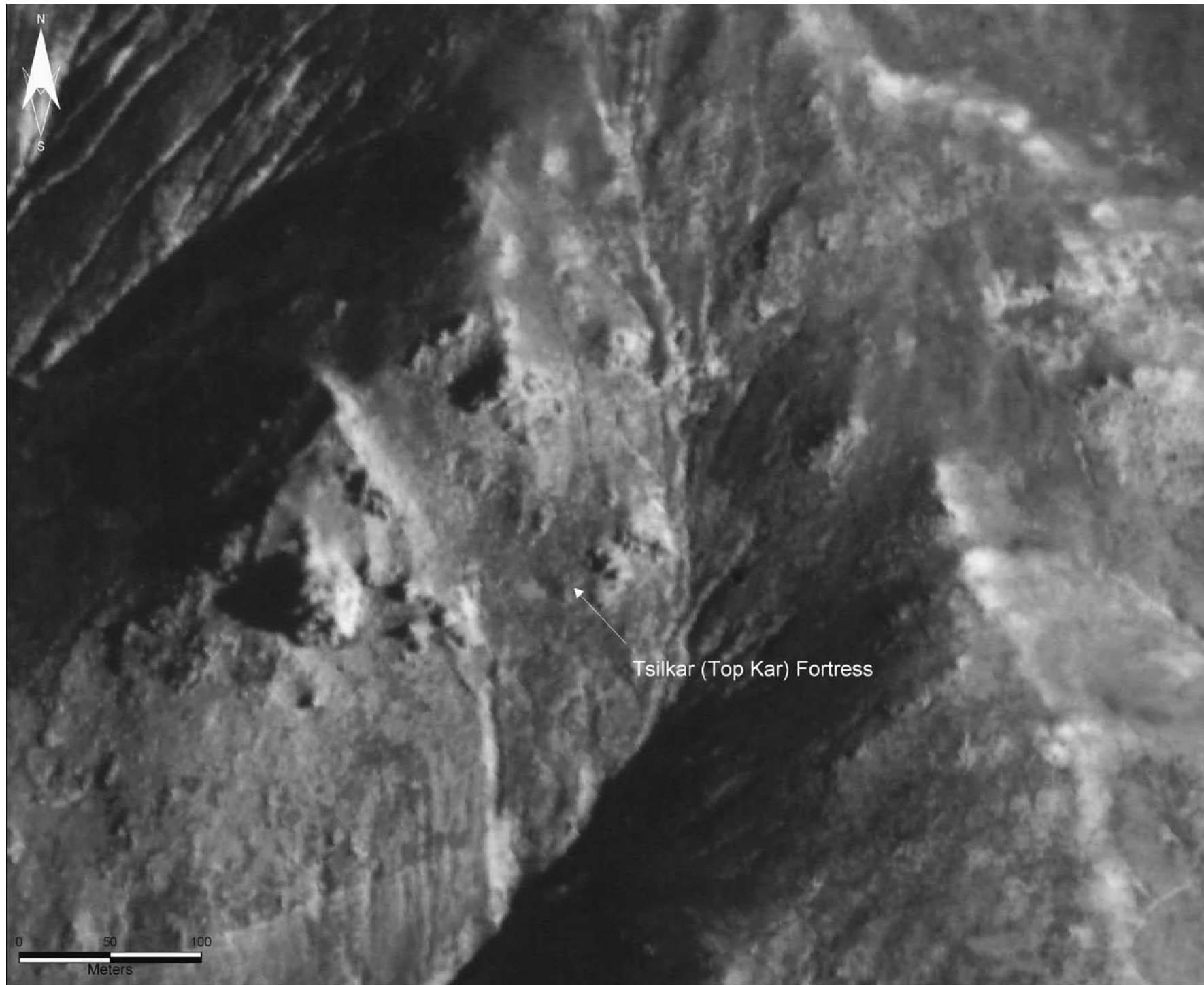
Tsaghkahovit Plain Showing Coverage of the 1989 Series Aerial Photographs. Data Source: Eastview Cartographic. Created by Adam T. Smith



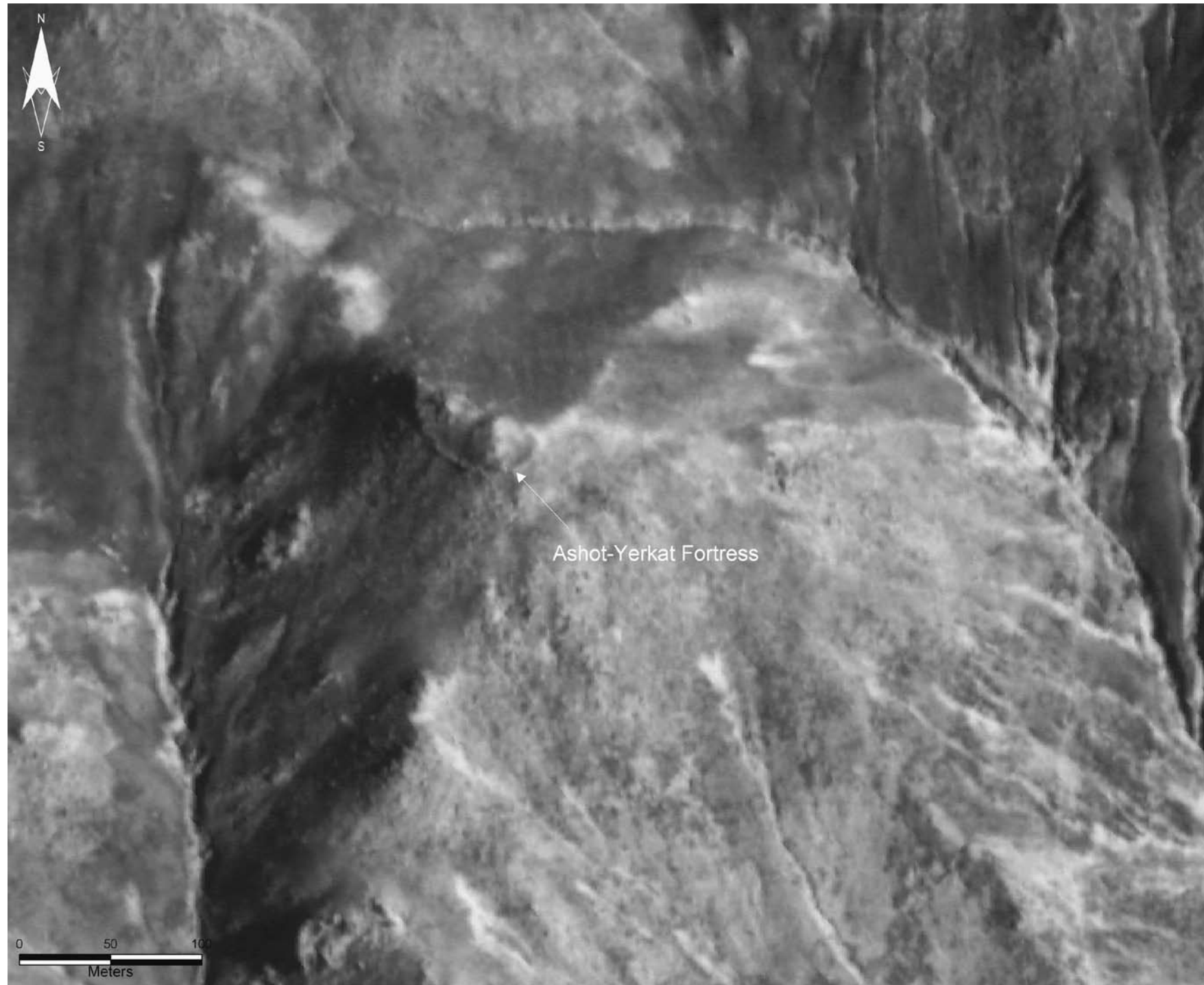
Aerial Photograph of Lernapar Fortress (frame 1989.C7). Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



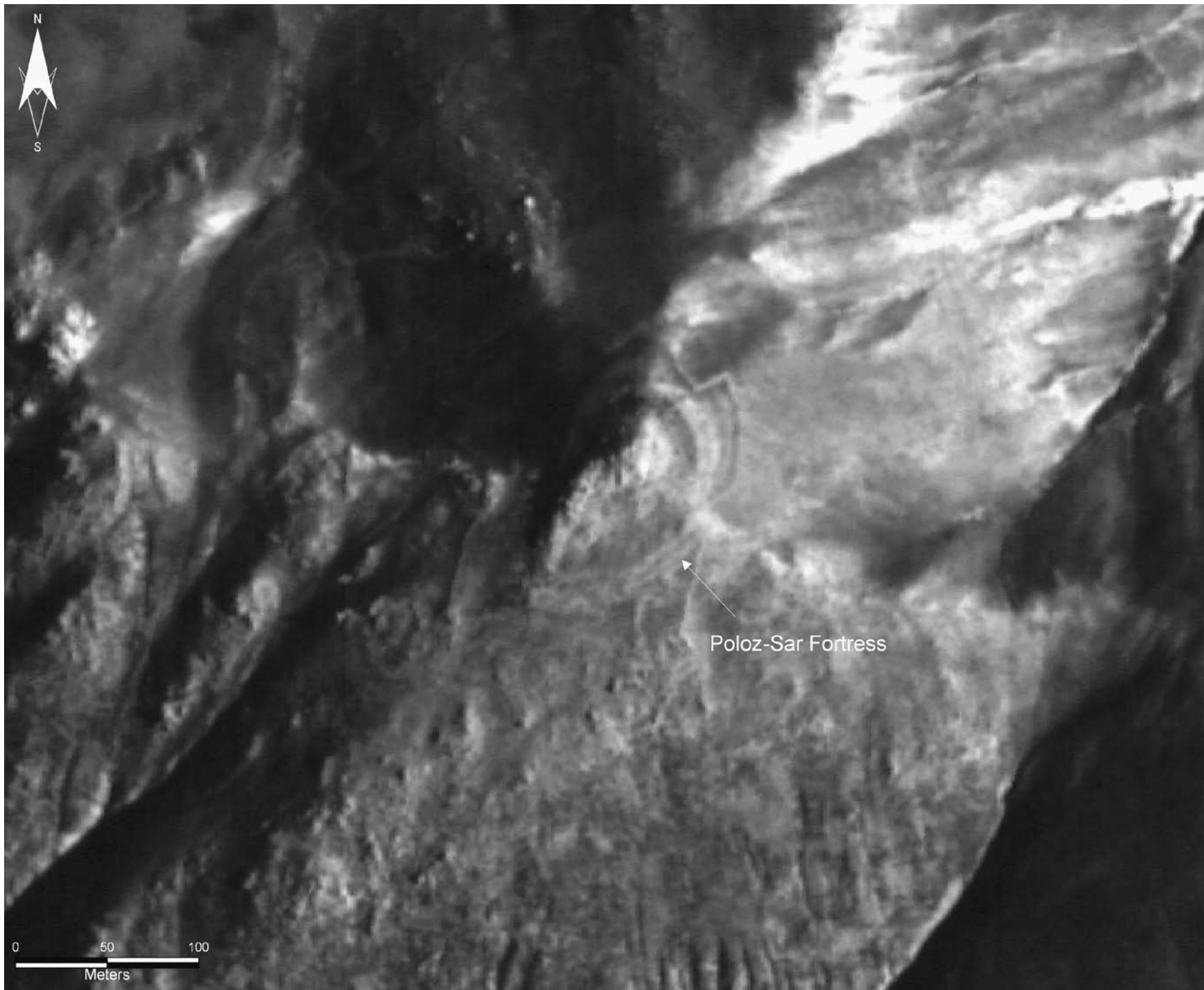
Aerial Photograph of Berdidosh Fortress (frame 1989.C7). Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



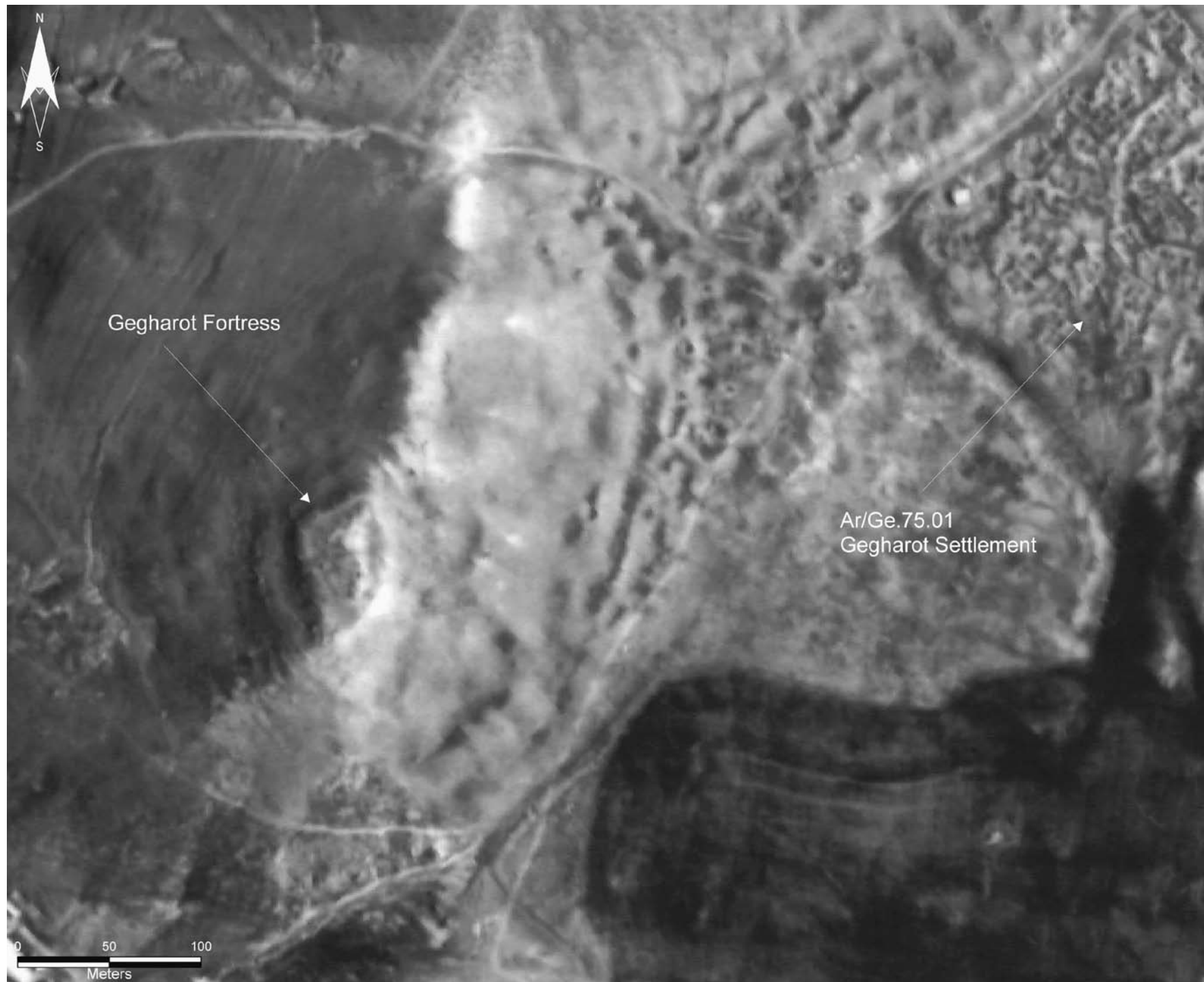
Aerial Photograph of Tsilkar (Top Kar) Fortress (frame 1989.C1). Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



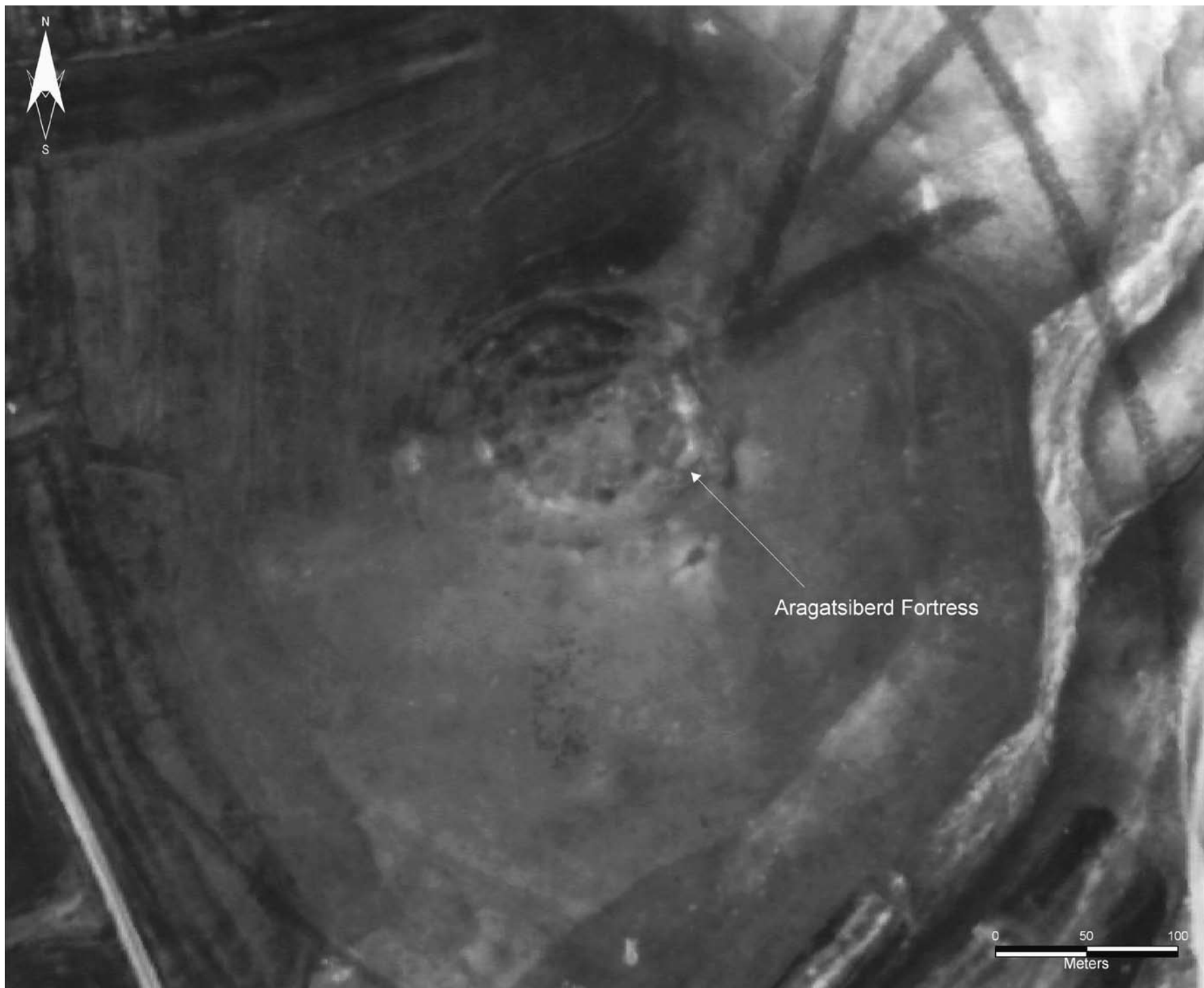
Aerial Photograph of Ashot-Yerkat Fortress (frame 1989.C1). Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



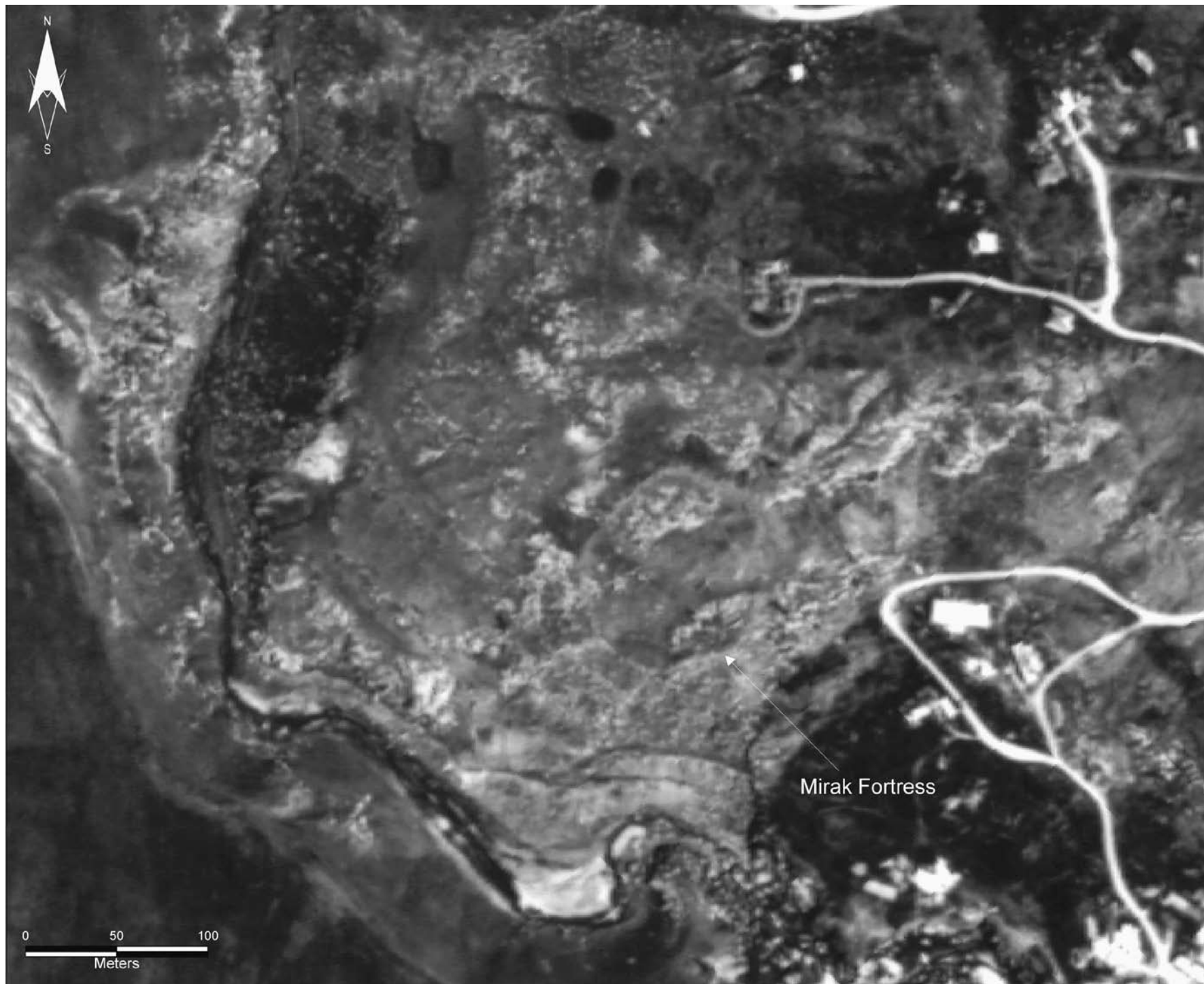
Aerial Photograph of Poloz-Sar Fortress (frame 1989.C7). Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



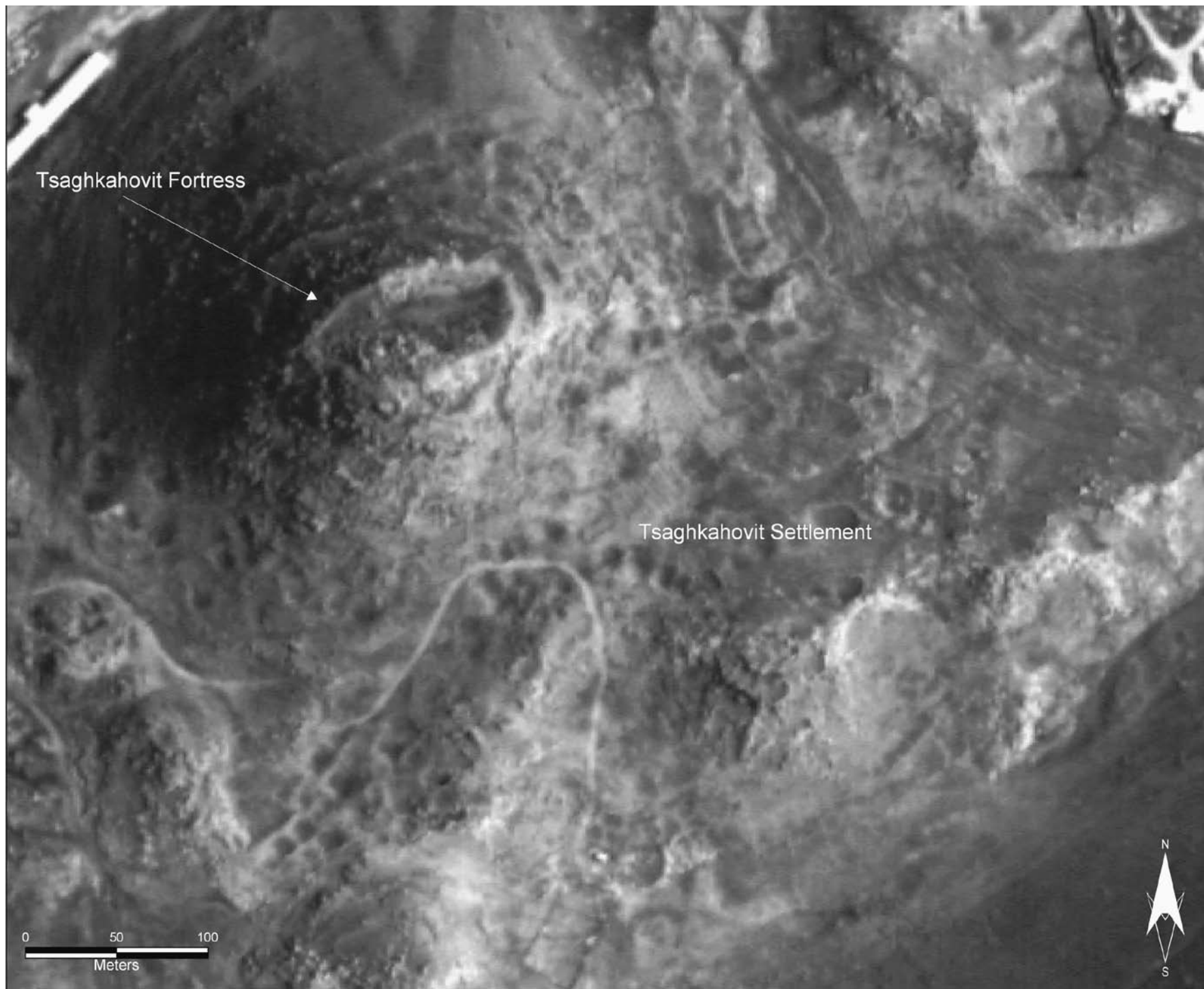
Aerial Photograph of Gegharot Fortress (frame 1989.C1). Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



Aerial Photograph of Aragatsiberd Fortress (frame 1989.B2). Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



Aerial Photograph of Mirak Fortress (frame 1989.A4). Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



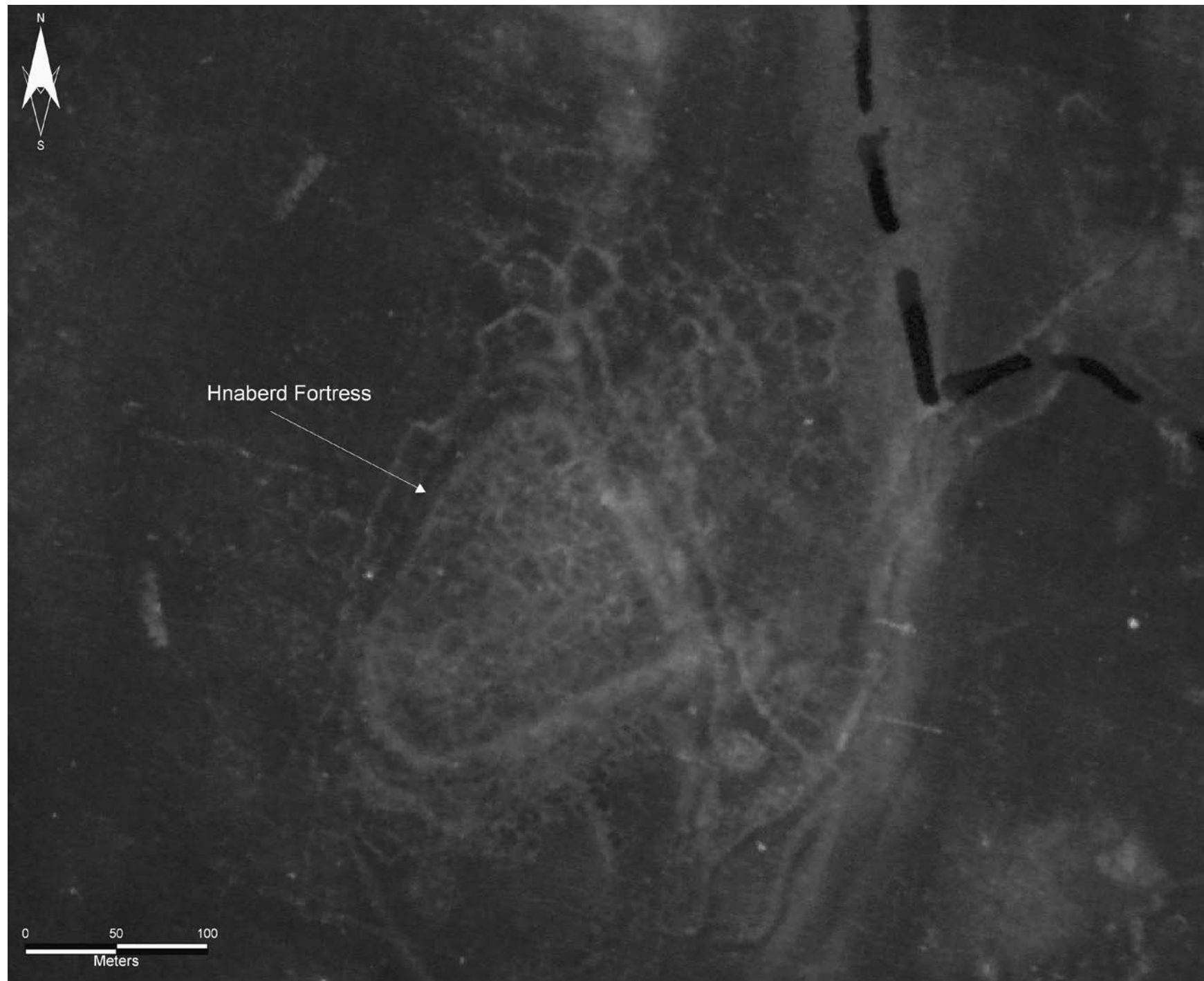
Aerial Photograph of Tsaghkahovit Fortress (frame 1989.C4). Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



Aerial Photograph of Sahakaberd Fortress (frame 1989.C12). Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



Aerial Photograph of Gekhadzor Fortress (frame 1989.C12). Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



Aerial Photograph of Hnaberd Fortress (frame 1948.B3). Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



Aerial Photograph Detail Showing Feature 1948.A.8.1 (frame 1948.A8). Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



Aerial Photograph Detail Showing Features 1948.A.8.3 and 4 (frame 1948.A8). Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



Aerial Photograph Detail Showing Feature 1948.C.4.1 (frame 1948.C4). Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



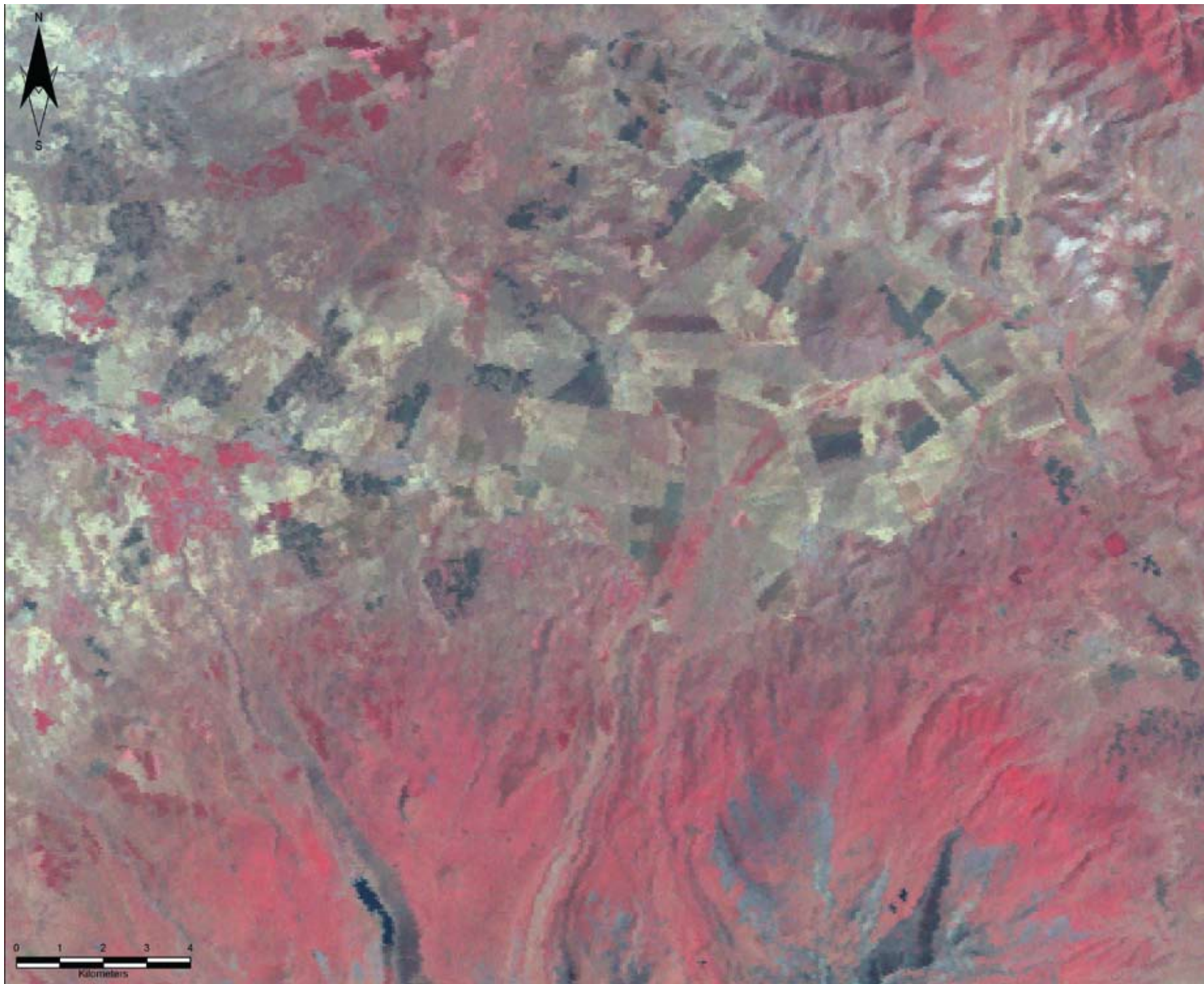
Aerial Photograph Detail Showing Feature 1948.A.6.1 (frame 1948.A6). Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



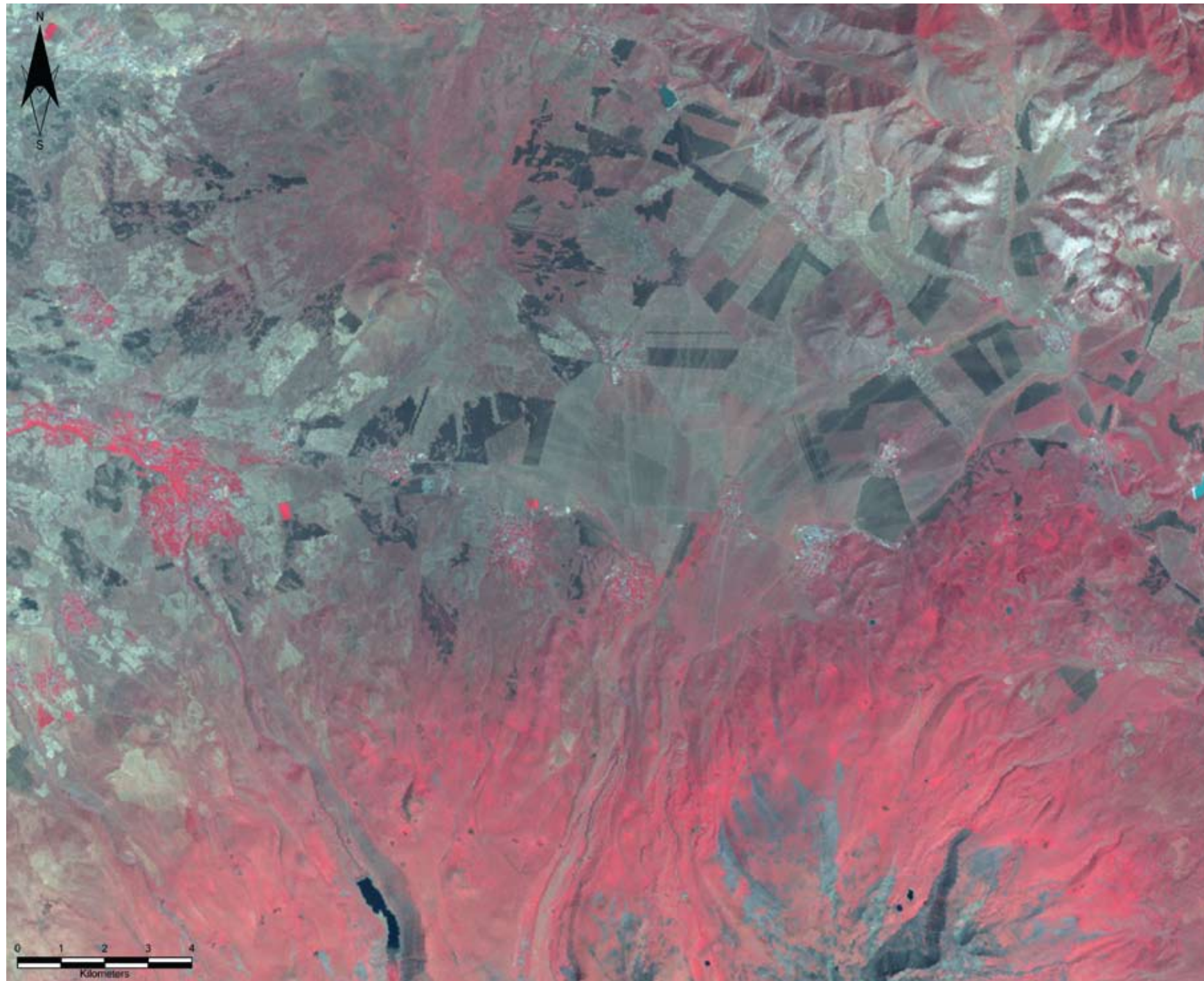
Aerial Photograph Detail Showing Feature 1948.B.5.1 (frame 1948.B5). Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



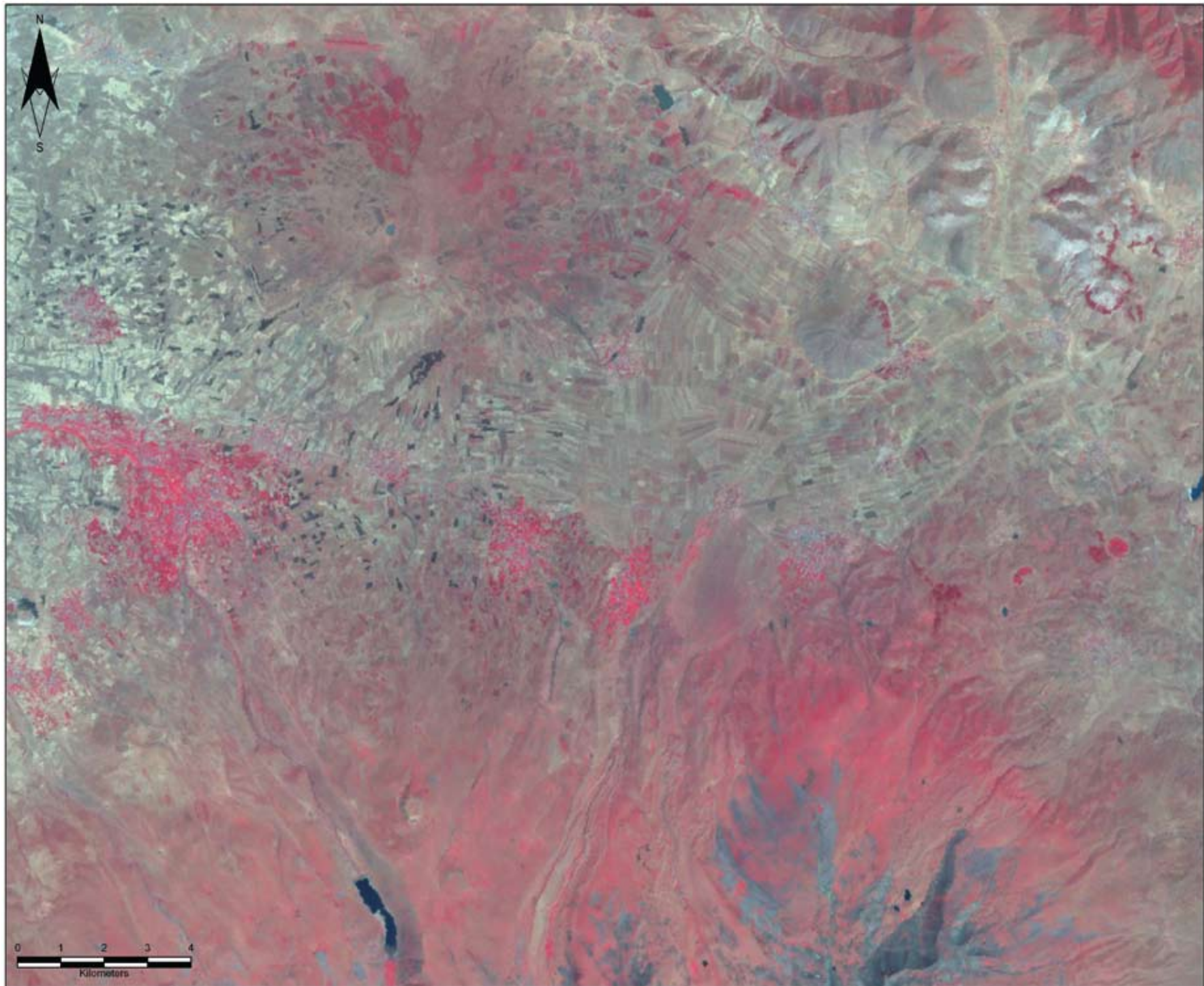
Aerial Photograph Detail Showing Feature 1948.B.2.1 in the 1948 (top; frame 1948.B2) and 1989 (bottom; frame 1989.C11/C4) Series Images.
Data Source: U.S.S.R. Aerial Photo Series. Created by Adam T. Smith



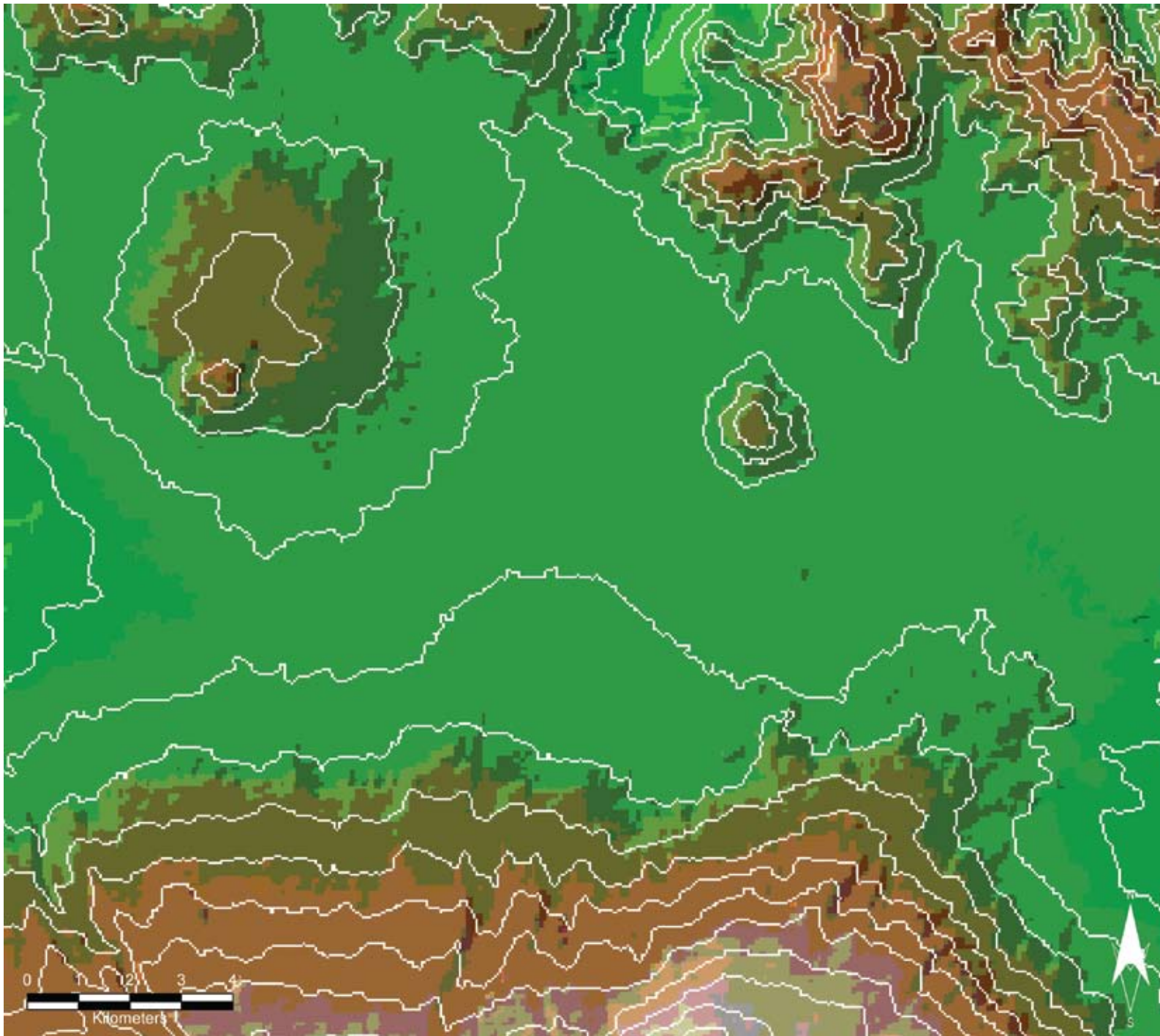
Landsat MSS RGB False Color Composite of the Tsaghkahovit Plain, 8/25/1977. Data Source: EROS/USGS. Created by Alan Greene



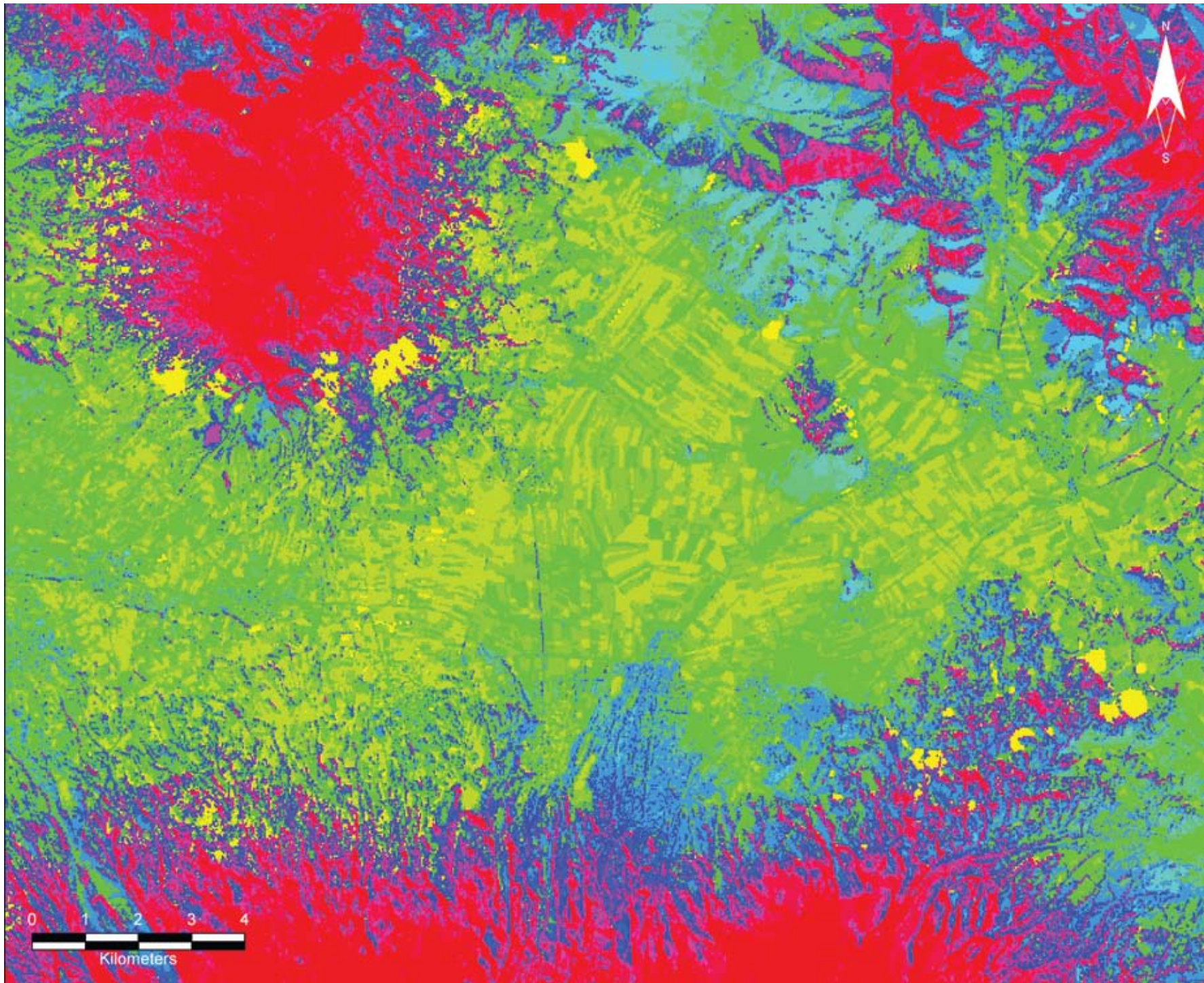
Landsat ETM RGB False Color Composite of the Tsaghkahovit Plain, 8/31/1989. Data Source: EROS/USGS. Created by Alan Greene



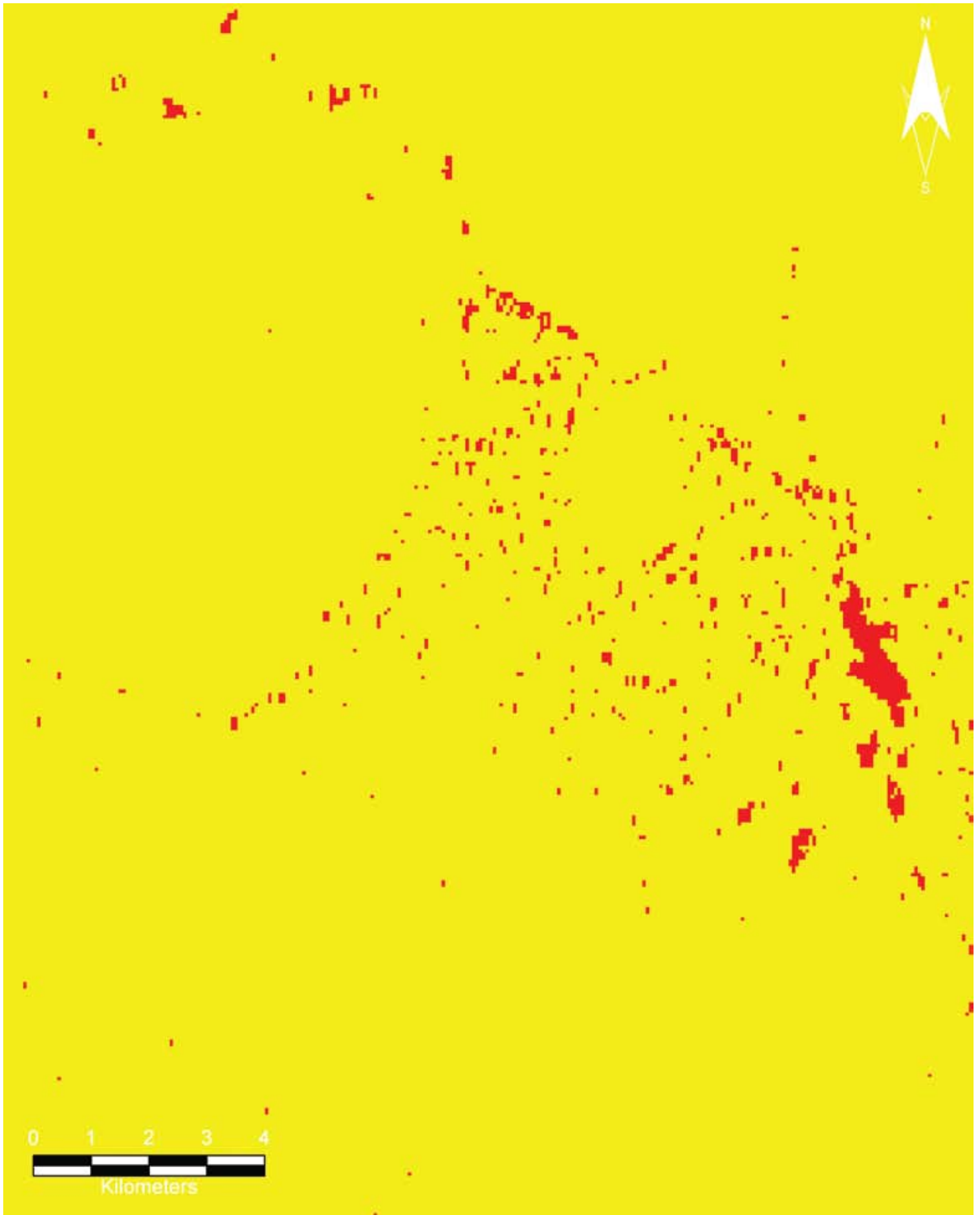
Landsat ETM+RGB False Color Composite of the Tsaghkahovit Plain, 8/13/2000. Data Source: EROS/USGS. Created by Alan Greene



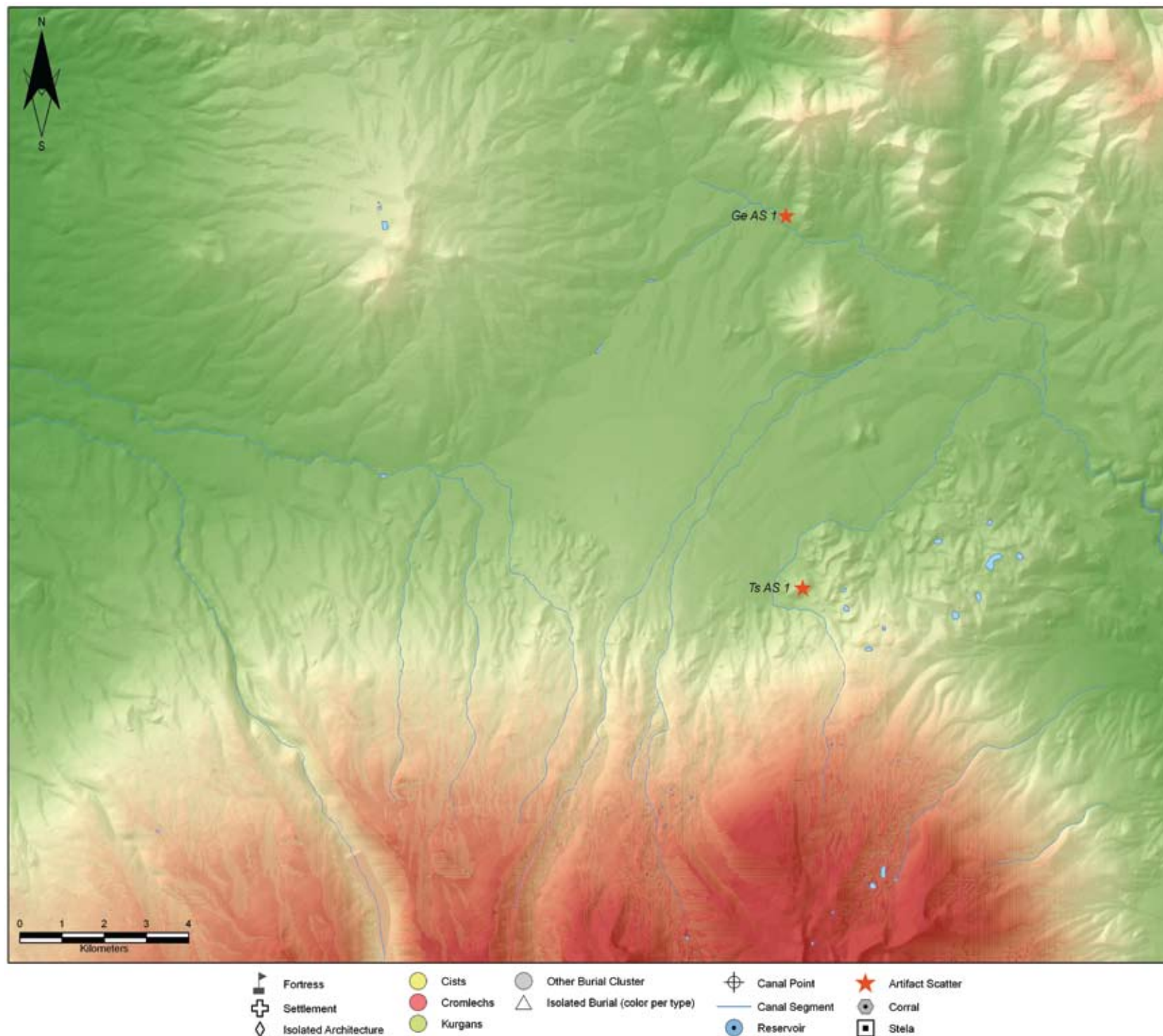
SRTM (+ GTOPO 30) with 100 m Contours. Data Source: NASA. Created by Alan Greene



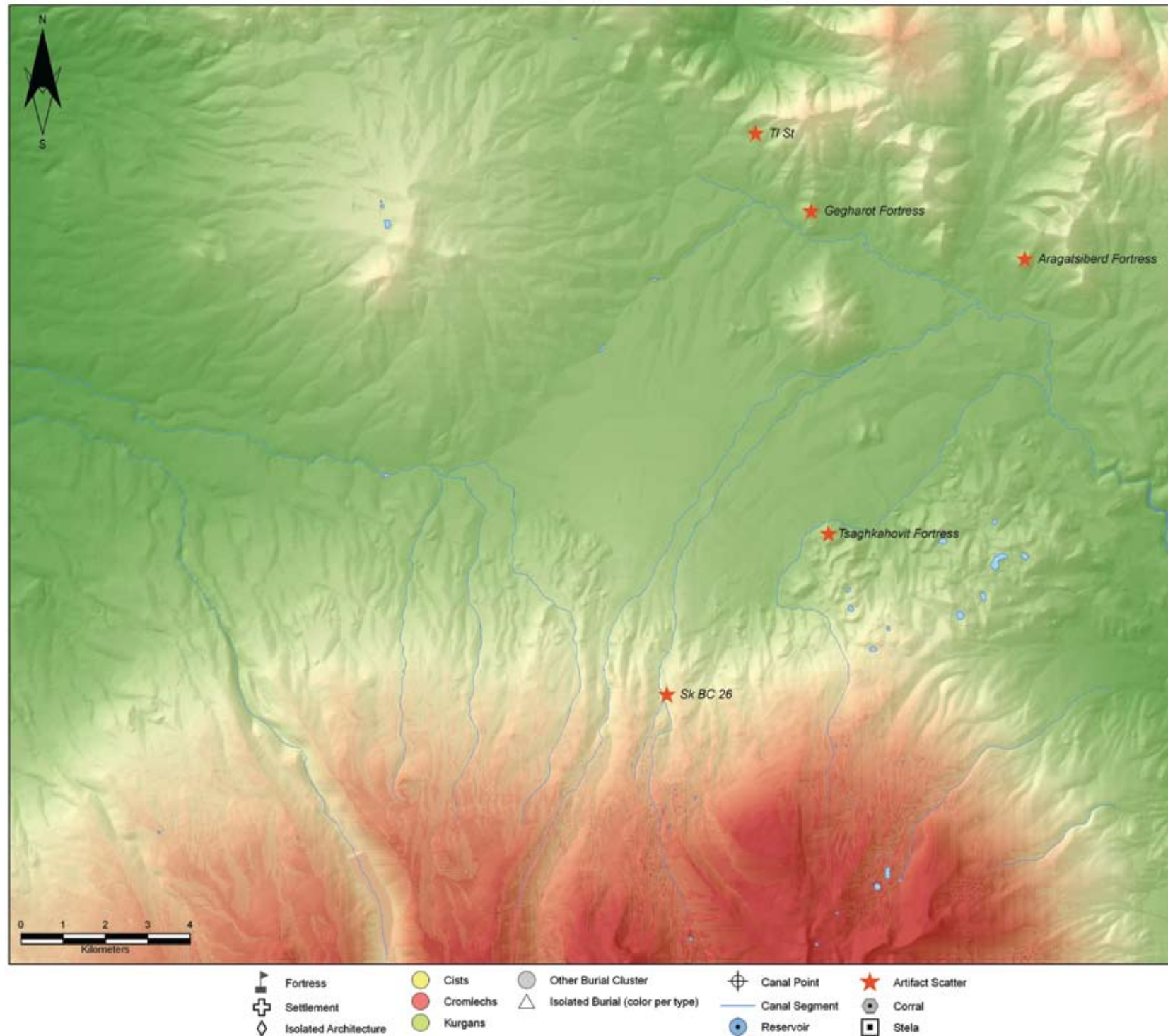
Classified Landcover from ASTER 2004. Data Source: NASA. Created by Alan Greene



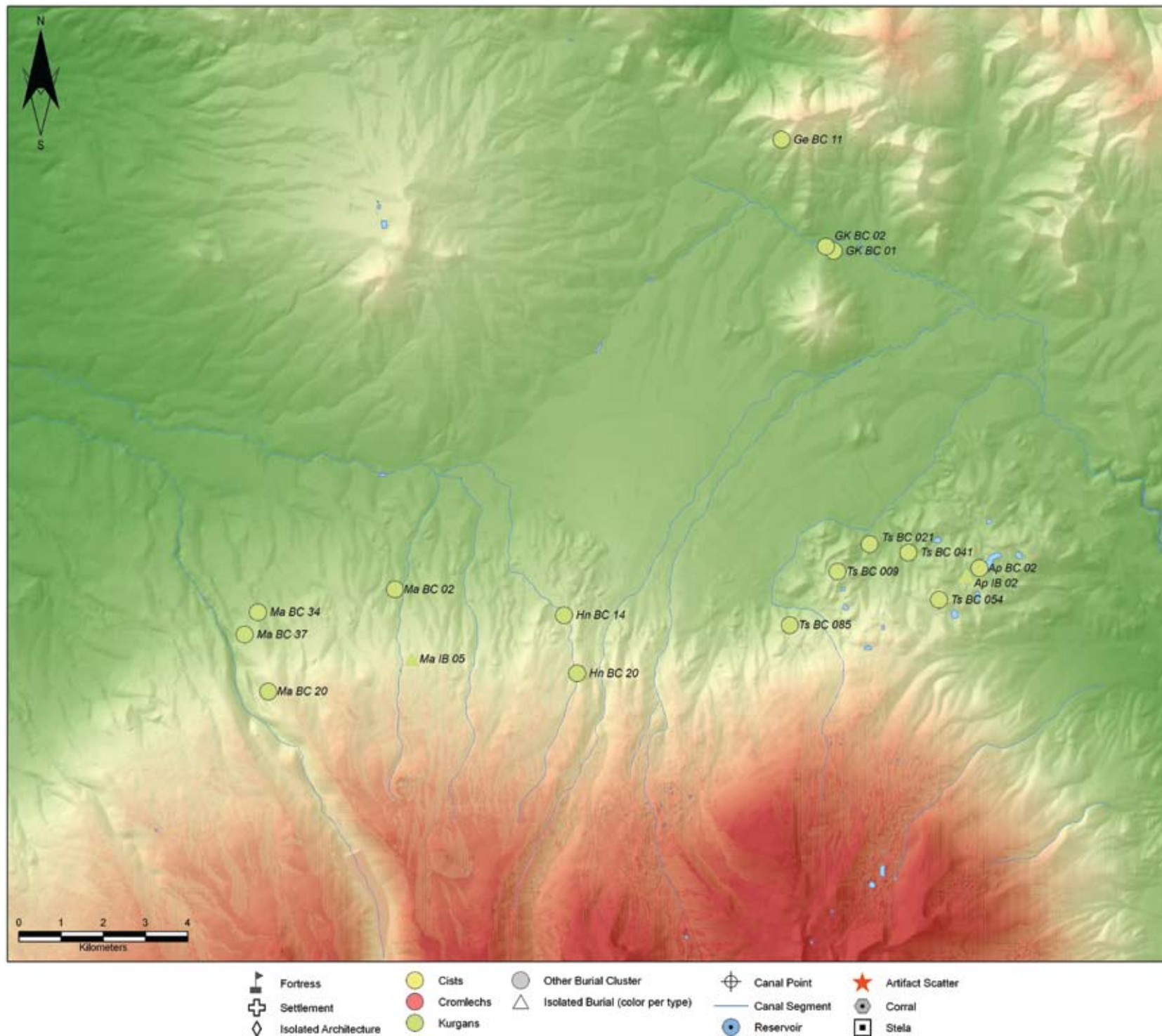
SRTM Flooded for Basin/Bog Detection. Data Source: NASA. Created by Alan Greene



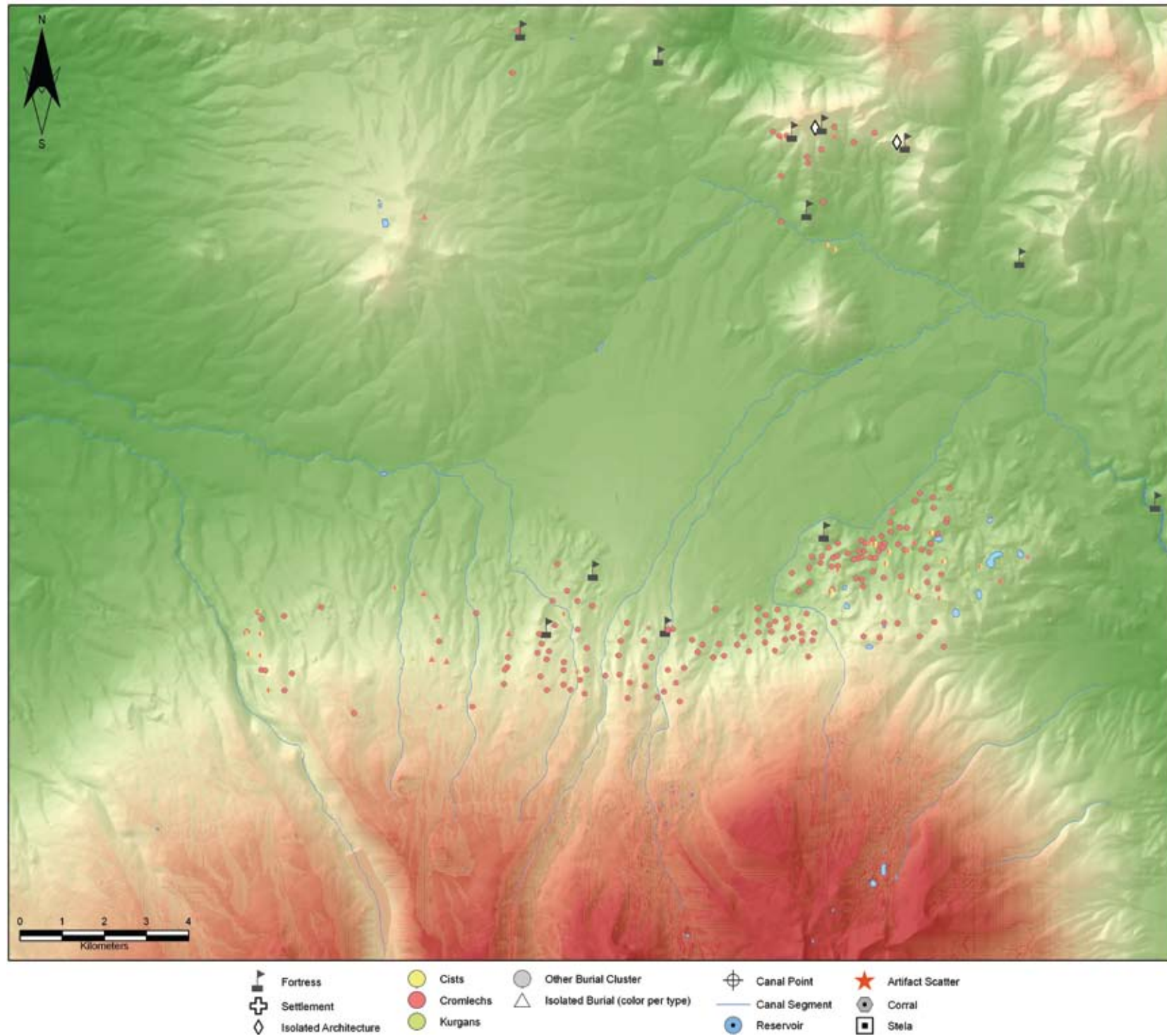
Tsaghkahovit Plain during the Neolithic/Chalcolithic Period. Data Source: Eastview Cartographic and Project ArAGATS. Created by Adam T. Smith



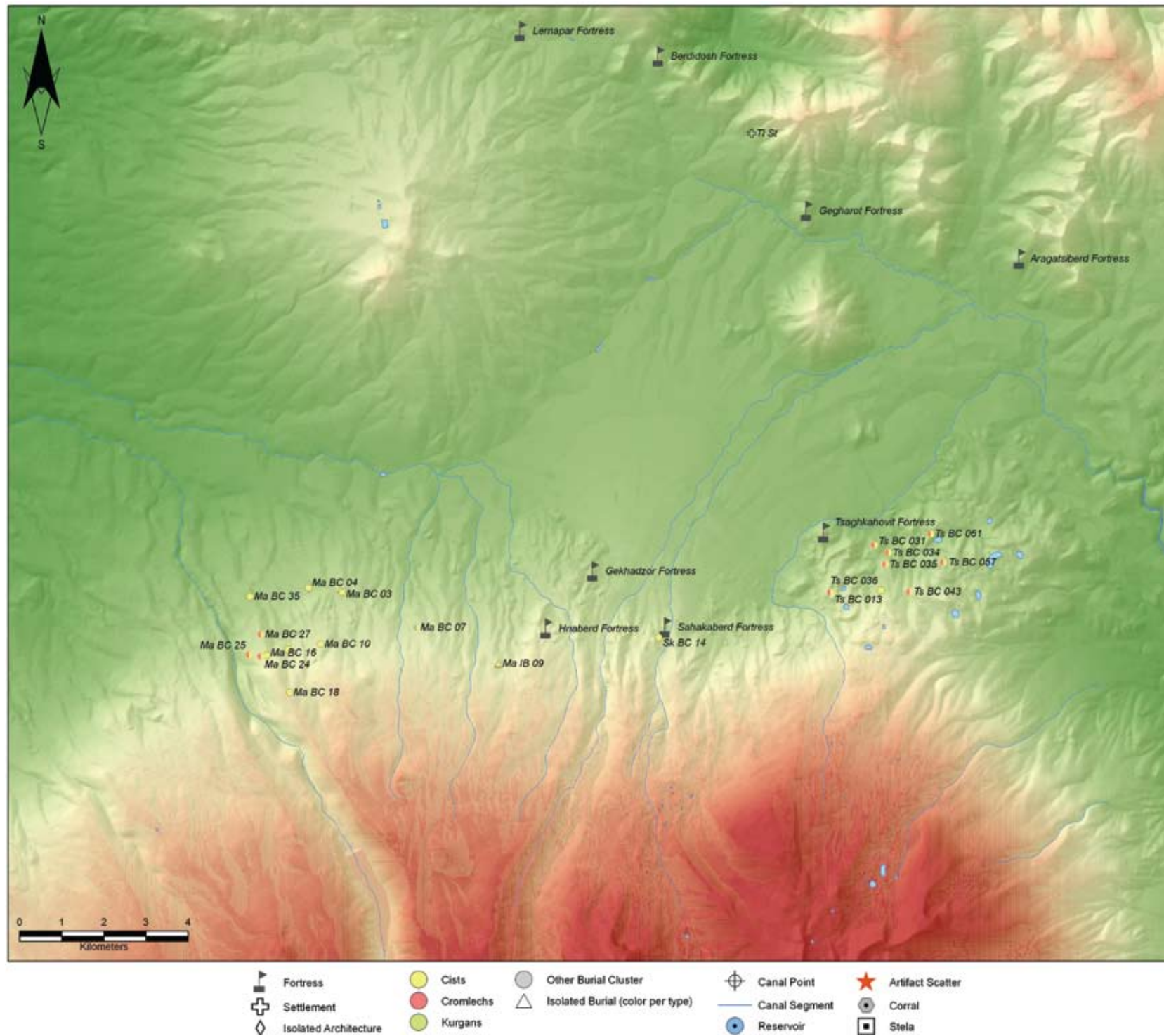
Tsaghkahovit Plain during the Early Bronze Age. Data Source: Eastview Cartographic and Project ArAGATS. Created by Adam T. Smith



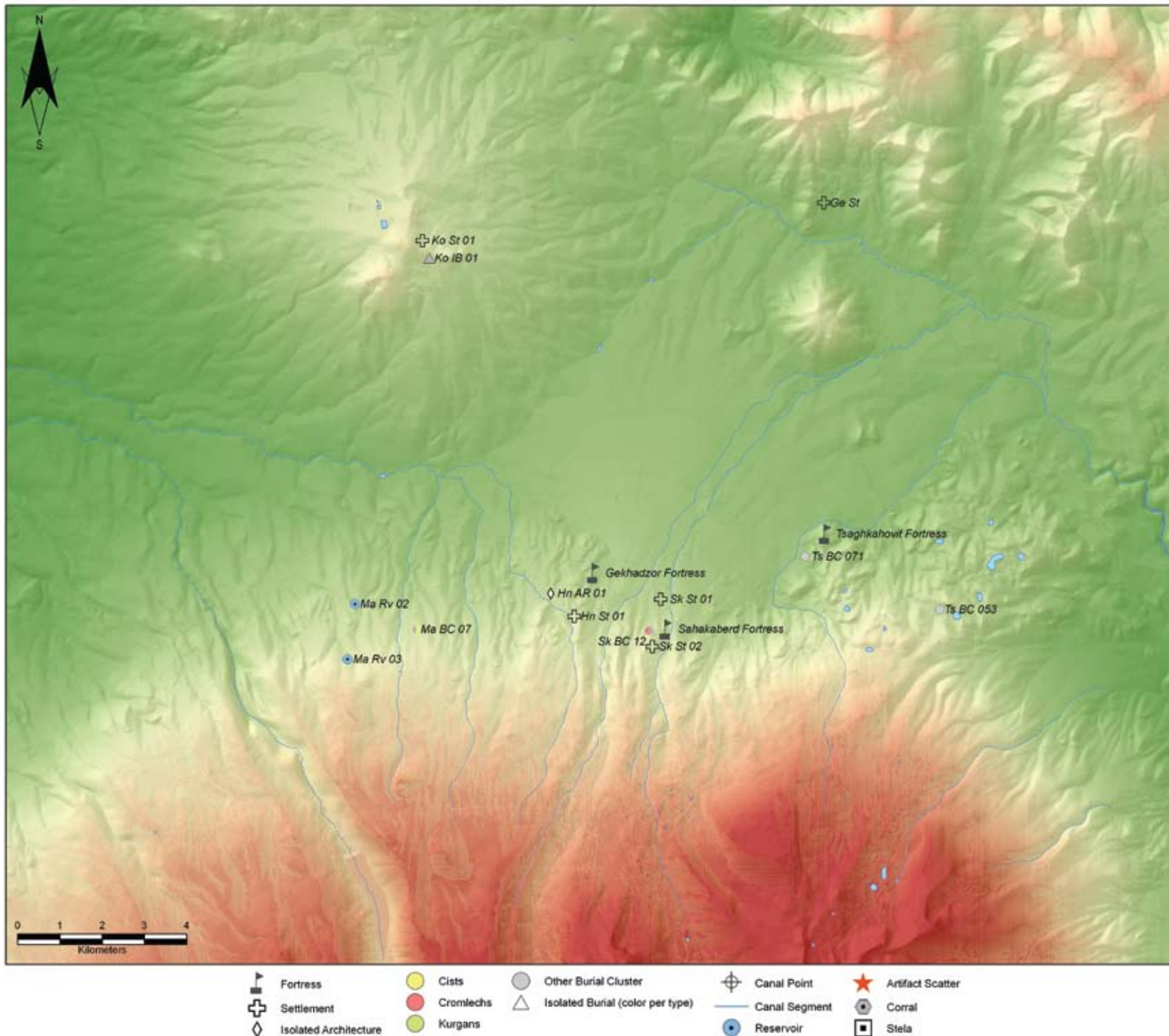
Distribution of Kurgans in the Tsaghkahovit Plain. Data Source: Eastview Cartographic and Project ArAGATS. Created by Adam T. Smith



Tsaghkahovit Plain during the Late Bronze Age. Data Source: Eastview Cartographic and Project ArAGATS. Created by Adam T. Smith



Tsaghkahovit Plain during the Iron III Period. Data Source: Eastview Cartographic. Created by Adam T. Smith



Tsaghkahovit Plain during the Medieval Era. Data Source: Eastview Cartographic and Project ArAGATS. Created by Adam T. Smith

Plate 66



A



B



C



D

(a) Yerevan Obelisk; (b) Mount Aragats and the Tsaghkahovit Plain; (c) Modern Town of Tsaghkahovit;
(d) Mount Aragats in Early Winter. Photos by (a) Armine Hayrapetyan and (b–d) Adam T. Smith



A



B



C



D

(a) Tsaghkahovit Fortress; (b) Gegharot Fortress; (c) Hnaberd Fortress; (d) Sahakaberd Fortress. Photos by Adam T. Smith

Plate 68



A



B



C



D

(a) Berdidosh Fortress; (b) Tsilkar (Top Kar) Fortress; (c) Ashot-Yerkat Fortress; (d) Poloz-Sar Fortress.
Photos by Adam T. Smith



A



B



C



D

(a) Aragatsiberd Fortress; (b) Mirak Fortress; (c) Gekhadzor Fortress; (d) Lernapar Fortress. Photos by Adam T. Smith

Plate 70



A



B



C



D

(a) Tsaghkahovit Lower Town; (b) Hnaberd Lower Town; (c) Sahakaberd Settlement 1; (d) Tsilkar Settlement.
Photos by Adam T. Smith



A



B



C



D

(a) Tsaghkahovit Reservoir 2; (b) Tsaghkahovit Canal 5; (c) Canalized Drainage Adjacent to Hnaberd Settlement 1;
(d) Tsaghkahovit Canal 3. Photos by Adam T. Smith



A



B



C



D

(a) Tsaghkahovit Stela 1; (b) Tsaghkahovit Stela 2; (c) Tsaghkahovit Stela 4; (d) Mantash Stela 6.
Photos by Adam T. Smith



A



B



C



D



E

(a) Mantash Stela 5; (b) Hnaberd Stela 1; (c) Sahakaberd Stela 1; (d) Mantash Stela 1; (e) Aparan Stela 2.
Photos by Adam T. Smith

Plate 74



A



B



C



D

(a) Overview of Tsaghkahovit Burial Cluster 86; (b) Overview of Tsaghkahovit Burial Cluster 12; (c) Overview of Tsaghkahovit Burial Cluster 11; (d) Overview of Tsaghkahovit Burial Cluster 7. Photos by Adam T. Smith



A



B



C



D

(a) Detail of Tsaghkahovit Burial Cluster 36 Feature 1; (b) Detail of Tsaghkahovit Burial Cluster 13 Feature 1; (c) Detail of Sahakaberd Burial Cluster 14 Feature 1; (d) Detail of Tsaghkahovit Burial Cluster 38 Feature 1. Photos by Adam T. Smith

Plate 76



A



B



C



D

(a) Detail of Hnaberd Burial Cluster 4 Feature 5; (b) Detail of Tsaghkahovit Burial Cluster 20 Feature 3;
(c) Detail of Tsaghkahovit Burial Cluster 41 Feature 2; (d) Detail of Tsaghkahovit Burial Cluster 49 Feature 1.
Photos by Adam T. Smith



A



B



C



D

(a) Detail of Tsaghkahovit Burial Cluster 15 Feature 1; (b) Detail of Tsaghkahovit Burial Cluster 23 Feature 1;
(c) Detail of Aparan Burial Cluster 2 Feature 2; (d) Detail of Tsaghkahovit Burial Cluster 79 Feature 1.

Photos by Adam T. Smith

Plate 78



A



B



C



D

(a) Detail of Tsaghkahovit Burial Cluster 7 Feature 2; (b) Detail of Tsaghkahovit Burial Cluster 58 Feature 1;
(c) Detail of Tsaghkahovit Burial Cluster 4 Feature 2; (d) Detail of Tsaghkahovit Burial Cluster 60 Feature 1.
Photos by Adam T. Smith



A



B



C



D

(a) Detail of Hnaberd Burial Cluster 4 Feature 1; (b) Detail of Tsaghkahovit Burial Cluster 7 Feature 3;
(c) Detail of Tsaghkahovit Burial Cluster 1 Feature 3; (d) Detail of Tsaghkahovit Isolated Burial 1.
Photos by Adam T. Smith

Plate 80



A



B



C



D

(a) Detail of Gegharot Kurgans Burial Cluster 1 Kurgan 1; (b) Detail of Mantash Burial Cluster 8 Tomb 3;
(c) Detail of Tsaghkahovit Burial Cluster 41 Feature 1; (d) Detail of Mantash Burial Cluster 19 Feature 1.
Photos by Adam T. Smith



A



B



C

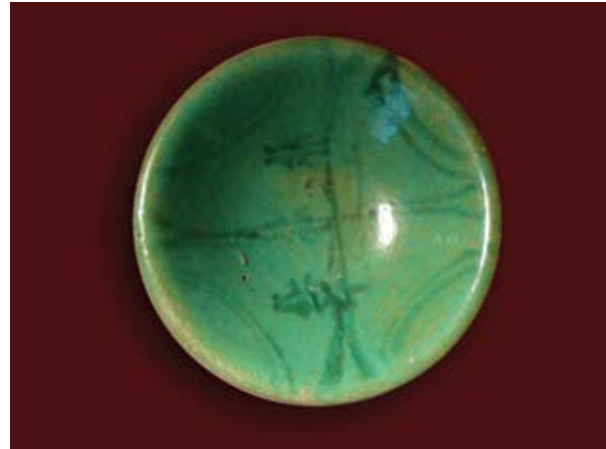


D

(a) Mantash Corral 8; (b) Tsaghkahovit Corral 3; (c) Detail of Tsaghkahovit Burial Cluster 53 Feature 1;
(d) Overview of Tsaghkahovit Burial Cluster 71. Photos by Adam T. Smith



A



B



C



D



E

(a-e) Ninth-Tenth Century A.D. Ceramics Recovered from Tsaghkahovit Burial Cluster 71.
Photos by Hamazasp Khachatryan